BRITISH ARCHITECTURAL POLYCHROMY: 1840 – 1870

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A thesis submitted for the degree of Doctor of Philosophy

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August 2002

ABSTRACT OF THESIS

British Architectural Polychromy: 1840 – 1870

In 1984, among the proposals for the redecoration of the British Museum was a plan to reinstate the decorative scheme for the Entrance Hall created in 1847 by Sydney Smirke. The controversy that ensued is the departure point for this thesis. Sydney Smirke's decorative scheme proved to be much more than simple embellishment of the space. It was a polychromatic scheme based on ancient Greek motifs and colours and their archaeological manner of use manifested the period's preoccupation with architectural historicism, and also final recognition that the Greeks had used bright colours on their buildings and sculpture.

This thesis examines the architectural context of Smirke's scheme, and the development of architectural polychromy as a prominent feature of British architecture between 1840 and 1870. Although previous historical studies have been made of colour in the work of individual architects, and of the relation between the practice of polychromy and architectural thought (especially that of John Ruskin), there exists no comprehensive study of the practice of polychromy in mid-nineteenth century Britain. In particular, existing studies have not sufficiently stressed the great diversity of the sources for British polychromy. Part of the purpose of this thesis is to show that the development of polychromy by British architects was indebted not only to medieval sources, but also to antiquity, and to Islamic sources; and furthermore to show that the emergence of an architectural discourse about polychromy emerged not only out of the study of ecclesiology, and the writings of John Ruskin, but also from classical archaeology, and from contemporary European architectural thought. Of the various figures whose work is studied, Owen Jones emerges as the person who more than any other provided a connection between these diverse sources and ideas.

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(note: where no source is quoted the illustration has been supplied by the author)

Abbreviations:

BM / P & D	British Museum Prints & Drawings department
V & A / P & D	Victoria & Albert Museum Prints & Drawings Collection
V & A / PicLib	Victoria & Albert Museum Picture Library
RIBA	Royal Institute of British Architects

Figure. ref.no	Caption
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PREFACE

My experience as a practising architect has involved so much teamwork in the past that work as a researcher often seems rather lonely by comparison. It therefore comes as something of a surprise at the end of a research project such as this to realize just how many people have contributed towards it in one way or another and what a debt one owes to them for their guidance and support.

First of all I should like to express my sincere gratitude to Professor Adrian Forty, my supervisor, for his patient guidance and helpful advice over the last six years. Apart from sharing with me his considerable knowledge of sources of information relevant to the subject and period, he has encouraged me to look more analytically at Victorian buildings and to search constantly for the underlying meanings of the use of colour in its architecture.

Next, I should like to thank ex- colleagues at the British Museum who gave me initial encouragement to set off on the project: Dr Tonia Noussia, of my own department, Architectural and Building Services; Dr Dyfri Williams, Keeper of the Greek and Roman Department and Dr Ian Jenkins, Assistant Keeper of the Greek and Roman Department. But for them I might never have got started.

Amongst the many who provided material or advice relating to my subject I should particularly like to record the debt I have to the following people: Professor Azza Kararah-El-Abbadi, Alexandria University; Daniel Boeckmann; the Rev. Robert Braun of St Mark's Church, Alexandria, Dr Ian Bristow, Christopher Date, archivist at the British Museum; Dr Carol Flores, Ball State University, Indiana, USA, Rita Gibbs, archivist at Harrow School, Daniel Golberg, Thomas Ford and Partners, Dr Tanis Hinchcliffe, University of Westminster; Dr Jaromir Malek, the Griffiths Institute, Oxford; Dr Stefan Muthesius, University of East Anglia; Yvonne Neville-Rolfe, descendant of Joseph Bonomi, Charles Newton, Victoria and Albert Museum; John

Outram, architect; Susan Palmer and Stephen Astley , the Soane Museum and Dr Jon Whiteley, the Ashmolean Museum.

I am most grateful to all those who took the trouble to open up buildings specially so I could study and photograph them: these include Father Victor Bullock and Father Thomas, St Martin's Church, Fenny Stratford; Norman Chalmers, Taymouth Castle; Clare Fleck, archivist Knebworth House; the Rev..Michael Fuller, St George's Church , Campden Hill; Windsor Howells, St Augustine's Church, Penarth; the Rev. Christopher Ivory, Christ Church, Streatham; the Rev. Michael Mc Gowan, St Simon Zelote's Church, Chelsea; and Father Simon Wakely S.S.C, All Saints Church, Babbacombe.

I should also like to thank the staff of the following libraries and collections who have given me assistance in locating references and obtaining a variety of material, principally for photographs: Borough of Kensington Library; British Architectural Library, Royal Institute of British Architects; Cambridge University Library, Cambridge University Faculty of Architecture and History of Art Library; Cambridge University Classical Faculty Library, City of London, Guildhall Library; National Library of Wales, Aberystwyth; Reading University Library; Royal Institute of British Architects Drawings Collection; Victoria and Albert Museum National Art Library, the Picture Library and the Prints and Drawings Collection.

The expense of having all the illustrations digitised and put on CD-Rom so they could be printed by computer was only possible as a result of being awarded a 'Ramsden Bursary' by the Society of Architectural Historians of Great Britain. I should like to record my gratitude to them for supporting the cost of this work. Huw Jones, of the UCL Media Resources Unit, gave me valuable advice on the techniques of producing illustrations from the CD-Roms.

Joan Haddock's ability to word-process the text quickly and accurately has been much appreciated and has constantly enabled me to meet deadlines even when this has meant her working at unsociable hours for her family. I have been doubly fortunate in having assistance from someone who has taken a genuine interest in the subject. I should also like to thank Kathryn Ferry for her help at a late stage when I was finalizing the bibliography.

Finally I know I how lucky I have been to enjoy the unwavering and patient support of my wife Liz throughout the project and to have her companionship on many of the building visits around the UK.

INTRODUCTION

The Great Court of the British Museum, opened at the end of 2000, was a scheme of such magnitude it has tended to overshadow a related but much smaller building project at the Museum which has received comparatively little attention but is, in its way, of no less architectural significance. That project is the restoration of the original 1847 polychrome decorations in the Entrance Hall. In 1984 the Trustees of the British Museum had unexpectedly found themselves involved in considerable architectural controversy when they planned to carry out major refurbishment and re-decoration of the Museum's Entrance Hall and Main Staircase. During the Second World War this area had been seriously damaged by bombing and when the Ministry of Works carried out repair work and re-decoration of the area shortly after the raids, neither funds, nor the pressing need of the Museum to open its doors to the public again, had allowed the original elaborate decorations to be restored to their former condition. The area had received further re-decoration during the 1960s, but again, no attempt had been made to restore the original decorative scheme.

The Museum's Archive department had photographic evidence, from pictures taken during the 1930s, that the original neo-Greek polychrome decorations had survived up to the time of the war but, being black and white, they were of little use for restoration purposes. In practice the Director and Trustees had no wish to revive Sydney Smirke's original colour scheme. The Trustee architect, Sir Denys Lasdun, the Director, and the Museum's own Design Office, were committed to a policy of modernisation for the public galleries as part of an effort to change the public perception of the Museum as being somewhat fusty. For them it was important that the place of arrival should present a modern image in step with the newly decorated public galleries.

The colour scheme proposed by the Director and Trustees was for a range of light greys, offset by white and mixed with the natural hues of oak, sandstone and

granite. Their argument was that in introducing this scheme it was consistent with the range of colours which Sir Robert Smirke 'would have been likely to use had he still been the architect responsible for the Museum in 1847'. Not surprisingly, this proposition failed to win over those who wished to see the original scheme revived; a group which included English Heritage, the Georgian Group and the Victorian Society (not to mention a good deal of support from individuals within the Museum).

At the height of the controversy it transpired that the Museum's Prints and Drawings Department had in their possession a watercolour, painted by Leonard Collman in 1847, which showed proposals for the Entrance Hall colour scheme (Fig. 1).[1] When this came to light a survey was immediately put in hand and as a result of scrapes taken by Dr Ian Bristow he was able to report, that so far as could be ascertained, the scheme illustrated had been the one actually carried out.[2] By this time the Trustees were committed to the modern scheme, and in spite of English Heritage's refusal to grant Listed Building Consent, chose to proceed with it. However, in order to avoid a Public Enquiry they were forced to accept one condition; the original paintwork of Collman and Davis' scheme must be preserved as a historic document. As events turned out this was a fortunate decision for, twelve years later, the Trustees decided to proceed with the restoration of the original decorative scheme when funding became available at the time of the Great Court scheme.

At the height of the 1984 controversy the magazine *Country Life* published an article[3] which attempted to put the project in context. It showed how the scheme reflected two-fold interests. Firstly, the archaeological interest at the time in the ancient use of colour; second, the style of decoration which had evolved in Europe was in response to archaeological discovery. But the article failed to point out that on the

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[1] British Museum, Prints and Drawings Dept., Solander C.77 Register 1902, 1-29-1

[2] BRISTOW, IAN C., (1984): British Museum Entrance Hall 'Report on an Investigation of Paint Samples for the Property Services Agency of the Department of the Environment'

[3] LAING, ALISTAIR (1984): 'Penny Plain or Tuppence Coloured', *Country Life*, Vol.175, (17 May),

evidence available it was the first large-scale archaeological exercise in Greek revival colouring in a public building in the United Kingdom and it was therefore of special importance.[4]

The circumstances in which the 1847 decorative scheme came into being require some explanation. For nearly thirty years Sir Robert Smirke had been responsible for the design and construction of the British Museum but in 1845 he decided to resign from his post on the grounds of failing health. At his suggestion his younger brother Sydney, who had already assisted him in matters to do with the Museum, received a commission for completing the building. During the period which had elapsed since Robert Smirke's design had been prepared architectural taste had moved away from the chaste, severe, Greek revival style and been succeeded by classically-inspired designs, such as those produced by E.M. Barry and C.R. Cockerell, which displayed much more exuberance. By 1845 much new evidence had been discovered by archaeologists in Greece to establish beyond doubt that the Greeks had painted their buildings with primary colours in antiquity.

At the time Sidney Smirke took on his commission the front range of the building, which included the Entrance Hall and Main Staircase, was nearing completion. As the scaffolding came down, Smirke was struck by the fact that this space, rich in architectural ornament, would greatly benefit from a greater use of colour than had already been used in the areas so far completed. On 19 December, 1846 Smirke wrote to the Museum Secretary with a view to obtaining the opinion of the Trustees:

> 'Now that the new Hall and Staircase are cleared from scaffolding and other obstructions the great extent of plain surface on the ceilings and walls appear to me to require relief. This would be most effectually and to my mind most satisfactorily obviated by the introduction of some decorative painting.
> If done sparingly and cautiously, in strict conformity with ancient examples and confined chiefly to the mouldings, I am confident of a satisfactory result. Whatever doubt there may be as to the propriety of this kind of embellishment in the exhibition rooms, I apprehend there would be none as to its introduction in

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pp.1382-3 (referenced hereafter as LAING)

[4] I am grateful to Dr Ian Bristow for drawing my attention to this point of significance.

> the Hall and Staircase where there is more architectural effect than in any other part of the interior of the building.
> I am making arrangements for carrying out this idea, but I am unwilling to proceed without previously ascertaining that no objection is felt by the Trustees.'[5]

It is not recorded if the Trustees were divided on the issue but they ruled that, so long as no figures were introduced, it was a matter which could be left to the discretion of the architect. Smirke proceeded to commission a scheme from Leonard Collman and his partner R. Davis and, in the same year, it was put into practice. An article in *The Builder* reviewed it approvingly:

> 'The ceiling is trabeated and deeply coffered, and is enriched with Greek frets and other ornaments in various colours painted in encaustic...
> The polychromatic enrichments have been applied with very considerable success. The sunk panels are blue, with a yellow star in each; the enrichments are variously coloured - red and white predominantly, and the stiles, beams, etc, are covered with frets, guilloche and scrolls in flat colours, for all of which precedents were sought in the Museum collection.'[6]

The success of these polychromatic decorations in the Entrance Hall and the Grand Staircase encouraged Smirke to proceed with similar archaeologically based colour schemes for the new Western Galleries of the Museum, where the Graeco-Roman sculptures were to be put on display.[7] Research into the decorations of the Entrance Hall, for this thesis, began while they still lay hidden beneath many layers of paint and at a time when there was no will for their restoration on the part of the Museum's Director and the Trustees. (It might also be added that there was little chance of the work being carried out while there were so many essential projects competing for limited funds). It appeared, however, as the article in *Country Life* had pointed out, firstly, that the decorative scheme was of special interest because its execution coincided with a final acceptance by British scholars that the ancient Greeks had painted their buildings; and secondly, it appeared to reflect the influence of archaeologically

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[5] BRITISH MUSEUM, Archives, Letters and Papers, C.7113; letter dated 19 December 1846.
[6] *Builder, The* (1849): Vol.VII, (28 April), p.198
[7] JENKINS, I. (1992): *Archaeologists and Aesthetes* (London: British Museum), p.46 (referenced hereafter as JENKINS)

based exercises in the use of polychrome by European architects. There was a good argument, therefore, for the restoration of Collman's 1847 scheme to be treated as a special case in 1984. The year after Smirke's Western Galleries had been decorated in 1850 two important publications appeared which connected with these two issues. Francis Cranmer Penrose, whose research in Athens had been sponsored by the Society of Dilettanti, published *The Principles of Athenian Architecture*, confirming evidence of antique paint on the Parthenon, and Jakob Ignaz Hittorff published *L'Architecture Polychrome chez les Grecs* in which he advanced his theories for the system of colouring which had been used by the ancient Greeks.

There seemed no doubt that Smirke and Collman's colour scheme had been motivated to a large extent by recent archaeological discoveries. As a young man Smirke had visited the sites of antiquity in Italy and Sicily on an extended tour, finally returning to England in 1827. He had produced a number of scholarly papers on antiquities which had been published in *Archaeologia*.[8] There is, therefore, no doubting Smirke's interest in archaeology. The question which arises, however, concerns the extent to which the colour scheme may have been influenced by contemporary exercises in the use of polychrome, taking place around that time in Europe. One possible influence was the Altes Museum in Berlin (1822-30) by Karl Friedrich Schinkel, where the coffered ceilings of the portico and the associated staircase were painted with the same star motif, and a complex fret. These had been published in 1831, while an oil painting by Carl Daniel Freydanck dating from before 1843 shows the use of red between the enrichments of the architrave beneath.[9] The decorative scheme for the Walhalla at Regensburg by Leo von Klenze, was published in 1842 and the illustrations showed the blue coffers to the ceiling embellished with 'stars of white gold' and other polychromy (Fig. 2). Other contemporary exercises which may have had less influence

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[8] CROOK, J. MORDAUNT (1976): 'Sydney Smirke' in FAWCETT, JANE, ed., *Seven Victorian Architects* (London: Thames and Hudson), p.53 (referenced hereafter as CROOK: 'Sydney Smirke')

but which showed a more innovative approach to the use of classically-inspired polychromy were Hittorff's church of St Vincent de Paul, near the Gare du Nord in Paris (commenced 1844) and the Thorwaldsen Museum, in Copenhagen, by M.G. Bindesbøll (1838-44). The latter building was decorated on the exterior with ochre yellow facades, while inside there were ceilings with polychrome Pompeian motifs, tessellated terracotta floors and walls with strong colours to form a backdrop to Thorwaldsen's white marble sculptures.

At the British museum, both in the Entrance Hall and in the Western Galleries which followed, Smirke was therefore reflecting that preoccupation with architectural colour which is so central to mid-nineteenth century architecture. To illustrate this point one only has to look at the record of papers given at the Royal Institute of British Architects during the winter of 1850-51. On 2 December 1850, Matthew Digby Wyatt delivered a paper entitled 'Observations on Polychromatic in Italy'; on 16 December Owen Jones gave 'On the Decorations proposed for the Exhibition Buildings on Hyde Park'. John Gregory Crace followed this on 10 February 1851 with a talk 'On the Decoration of some of the Buildings at Munich'. This, therefore, was the context for the polychrome decorations at the British Museum Entrance Hall and, indeed, the topic of this thesis - British Architectural Polychromy - 1840-1870. But how should one approach this topic if it is such a significant dimension of mid-Victorian architecture? The usual approach has been to look at it in terms of a single individual's work; or in terms of one of the revivals, that is to say in terms of Gothic, Greek or Roman. But the effect of this is that it causes us to overlook the generality, the universality of colour as a theme in mid-Victorian architecture. The question is how to look at it in its entirety, without privileging a particular person, style, or point of view. The approach adopted by this thesis has been to try and establish the principles of architectural colour which

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[9] I am grateful to Dr Ian Bristow for drawing my attention to this point.

were developed during the 1850s by looking at theory and practice comprehensively. As with most other aspects of colour, however, all attempts to establish 'principles' are controversial and suspect, for as Gage has remarked, quoting the words of Vilmos Huszár:

> 'Nothing is more subjective that the reaction to colour, which depends on the nature of the individual.'[10]

All we can do is to emphasise the *diversity* of principles which were current in the mid-nineteenth century, and attempt to identify them. But if we are to try and establish these principles in a certain spirit of detachment there is still a need to start somewhere; we cannot just begin in a vacuum. Is Sydney Smirke the individual, therefore, who can lead us into the complex world of nineteenth century polychromy? Initial enquiries about Smirke were not encouraging and did not give the impression he was the right candidate. During his time as Professor of Architecture at the Royal Academy (1861-65) Smirke delivered a series of lectures which revealed him as an individual enthusiastic about architectural colour, but no theorist. Nor as an architect was he an innovator; in fact, he was something of a chameleon: a point which is supported by Mordaunt Crook's remarks:

> [he was] 'a typical product of the age of historicism...Neo-Norman, Early English, Decorated, Perpendicular, Lombardic, Early Renaissance, High Renaissance, Tudor, Jacobean - anything but Baroque; each style he mastered in turn and reproduced with few personal variations, competently and almost anonymously. His best Gothic works were restorations...Temperamentally he was a born classicist. He could handle classical elements with considerable finesse. But when it came to formulating theories of design he had nothing to add to Renaissance tradition. His lectures at the Royal Academy were a disappointing performance - predictably empty and predictably popular!'[11]

But, if not Smirke, who is the person best suited for this role?

Of the various figures considered in this study only Jones and Ruskin set down

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[10] GAGE, JOHN (1993): *Colour and Culture* (London: Thames and Hudson) p.259 (referenced hereafter as GAGE). This remark by the Hungarian painter and writer, Vilmos Huszár, appeared in the journal *De Stijl* August 1918, in an appreciative review of Wilhelm Ostwald's *Die Farbenfibel* (*The Colour Primer*, 1916).

[11] CROOK: 'Sydney Smirke', p.53

principles of architectural colour, but there is an important distinction between them. The intention behind Jones's principles is that they should be applied to buildings as part of the design process. This stands in contrast to Ruskin's approach, which has much more to do with the perception of colour on existing buildings.

Jones's ability to rationalise and define design principles which are applicable to architectural colour, whether it be painted or permanent, makes him the individual best suited to provide a departure point for this study. This is not to imply that Jones's principles were necessarily adopted by other practitioners of architectural polychromy; their value is more in acting as a benchmark for helping us to identify the range of principles which were followed during the period. But there is a further reason for commencing the main chapters with an analysis of Jones's theory and practice; it is that he, more than anyone else, is the person who connects the many issues, ideas and practices that make up Victorian polychromy.

In conclusion a few words are needed to explain the chronology and composition of the thesis. 1840, which is the beginning of the period under study, coincides with the time when James Wild's early exercise in structural polychromy, Christ Church, Streatham, was under construction. 1870, the end of the period, has no such milestone, but it coincides with that time when polychromy had become an architectural feature of common usage by architects and builders alike and no longer a subject of theoretical interest, or controversy. Chapter One is in effect an extension of the Introduction since it is concerned with the various processes by which colour came to feature as such an important element in architectural design in the years 1840-1870. Chapters Two to Seven, which are generally in a chronological sequence, are arranged on a thematic basis and are concerned with the theory and, more particularly, the practice of architectural colour. It is buildings which have been constructed rather than unrealised projects which are the main object of study of these chapters, and therefore

fieldwork has been an important component of the research. In reaching the conclusions of the thesis, much derives from the evidence of the buildings themselves, and, so as to be able to evaluate this evidence, colour illustrations form a significant part of the supporting apparatus of the thesis.

Collman's proposal for the Entrance Hall of the British Museum (1847)

Fig.1

Fig. 2 Leo von Klenze: interior of the Walhalla, near Regensburg, Bavaria. (1830-42)
(from *The Colour of Sculpture*)

LITERATURE REVIEW

Recent historical study of architectural polychromy in the nineteenth century begins with David van Zanten's thesis of 1970, *The Architectural Polychromy of the 1830s.* As van Zanten was to later observe in an essay prepared in 1976 as an 'Introduction and Overview' to his thesis, it was written at a time when nineteenth century architecture was studied in the United States chiefly in terms of England. This bias was noticeable, for instance, in the writings of Henry-Russell Hitchcock, who discussed polychromy but almost exclusively in terms of British architecture.[1] What this failed to do in van Zanten's opinion was to show that polychromy was a general phenomenon which embraced the whole of European architecture and appeared 'long before Butterfield designed All Saint's Margaret Street in 1849.'[2] The real significance of van Zanten's thesis therefore is that he emphasised the importance of the European debates about polychromy in the 1830s. Hitchcock, moreover, was an 'observational' historian – what he wrote was based very much upon the evidence of the buildings he saw – and as a result he said almost nothing about polychromy as a theoretical question, which it was in France during the 1830s. It was, therefore, van Zanten's achievement that he was able to establish the importance of the debates about architectural colour in France in the 1830s which had been largely ignored by Hitchcock. Van Zanten's research showed him that in the years around 1830 there was a sudden spate of interest in restoring the original appearance of the exterior painted ornamentations in ancient Greek temples and since it was architects who took the greatest interest in the subject, it had led them to producing drawings to give their impressions of how these buildings might have looked when colour had been applied to them. During the late 1830s there

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[1] HITCHCOCK, HENRY-RUSSELL (1977), *Architecture: Nineteenth and Twentieth Centuries* (Harmondsworth, Pelican History of Art), pp. 45 & 174

were architects, notably in France and Germany, who had wanted to go a stage further than just produce impressions on paper and had sought to apply colour to architecture through the use of brightly-coloured materials in the buildings themselves. It was only rather later, during the 1850s, that a form of architectural polychromy had come into being in which coloured building materials were used, and it was this treatment that was most clearly identified with the High Victorian movement in England.

Van Zanten's impression was that there existed a certain consistency in the approach towards colour during the 1830s period which identified it as a distinct movement in itself and worthy of special investigation. Although some scholars had mentioned it in passing, generally it was in the context of it being 'a symptom of Romanticism' or 'as a prelude to High Victorian architectural colour' rather than an entity in itself. With this objective van Zanten then attempted to define the principal purposes of his research

> No one, however, has analysed the element of architectural colour for itself, tried to relate its different manifestations during the 1830s, or attempted to see how this was linked to Romanticism, the High Victorian style, or other contemporary phenomena. These matters are the subjects of this thesis'.[3]

A little while after van Zanten had produced his thesis an exhibition of drawings by students of the École des Beaux Arts, Paris, made during the nineteenth century, was displayed at an exhibition at the Museum of Modern Art in New York during the autumn of 1975.[4] Many of these made use of the discovery, early in the nineteenth century, that the ancient Greeks had painted their buildings in bright colours. The interest generated by this exhibition and the publication of *The Architecture of the École*

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[2] VAN ZANTEN, DAVID (1977), *The Architectural Polychromy of the 1830s* (New York: Garland), 'Introduction and Overview', p.1. (referenced hereafter as VAN ZANTEN)

[3] VAN ZANTEN: p.xxii

[4] The exhibition 'The École des Beaux Arts' was shown at the Museum of Modern Art, New York, from 29 October, 1975 until 4 January, 1976. Arthur Drexler, director of the Department of Architecture and Design at the Museum of Modern Art, edited *The Architecture of the École des Beaux Arts*, which was published by Secker & Warburg, London, in 1977. This publication, based on the exhibition, contained a major chapter contributed by David van Zanten.

des Beaux Arts (1977) edited by Arthur Drexler, led in turn to an exhibition and conference on the École des Beaux Arts at the Architectural Association in 1978 – intended to dispel 'the extraordinary confusion and contradictions in all discussions on the subject', as Robin Middleton, the organiser of the conference, put it.'[5] During 1982-3 a further exhibition, entitled *Paris-Rome-Athens. Le Voyage en Grèce des Architectes Français aux XIXe et XXe Siècles*, was displayed first of all at the École des Beaux Arts, Paris during the summer of 1982, later mounted in Athens and then again in Houston, Texas during the summer of 1983. This exhibition concerned the archaeological reconstructions of classic monuments known as 'envoies' which had been prepared by students of the École des Beaux Arts, Paris, during the nineteenth and early twentieth centuries. It included work by many leading French architects of the nineteenth century such as Jakob-Ignaz Hittorff, Henri Labrouste and Charles Garnier. To cover this exhibition an excellent catalogue was produced with numerous coloured plates and the subject was introduced by articles which elaborated on the work of early archaeologists and travellers who had established the existence of ancient Greek polychromy early in the nineteenth century.

Six years after he had prepared his thesis van Zanten was invited by Garland Publishing Inc. to publish it. Conscious by then of the various limitations in the work, he decided to publish the thesis in its original form with 'only the addition of an introductory essay indicating summarily what significance the facts laid out in it might have'.

In this essay van Zanten is frank in drawing attention to what he regarded as two fundamental limitations which remained in the thesis:

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[5] The conference and exhibition took place at the Architectural Association, Bedford Square, London, in May 1978. The Architectural Design produced a number (Vol 48, nos 11-12, 1978) called 'The Beaux Arts', which coincided with the A.A. exhibition. I am indebted to De Tanis Hinchcliffe for drawing this to my attention.

> 'Proving the very existence of "the polychromy of the 1830s" in 1968-70 seemed a considerable accomplishment. That was unfortunate, for the dissertation consequently does not push far beyond simple documentation and formal analysis'.

Certainly, the existence of 'the polychromy of the 1830s' was made abundantly clear by the student drawings from the École des Beaux Arts displayed at the Museum of Modern Art in New York. The second limitation to which van Zanten draws attention is that 'this dissertation, being chiefly documentary is incomplete'.

> 'Having located an early conception of polychrome architecture in the fertile decade of the 1830s and in the highest, most cosmopolitan circles of London, Paris and Germany rather than in the insular world of British Ecclesiology...it should have dealt with the myriad links and analogies thereby suggested. Completing it in this sense, however, is no easy task even now in 1976'.[6]

In producing his hypothesis for a movement of architectural polychromy of the 1830s, distinct from that of the 1850s and the High Victorian movement, it seems in retrospect that he gave himself some fundamental difficulties. It must always be borne in mind that van Zanten's objective was to differentiate the work of the High Victorian architects from that of the earlier period. In his conclusion to his thesis he summarised what he considered to be three general distinctions which could be made between the structural polychromy of the 1830s and of the 1850s:

> '1) that the 1830s conceived the wall as a barrier between coloured spaces while the 1850s saw the wall as a homogeneous unit, its colour within it rather than applied to its sides;
>
> 2) that the 1830s preferred evenness, regularity and lightness in accent while the 1850s sought intricate and heavy rhythms;
>
> 3) that the 1830s chose to establish a clear division between colour and form while the 1850s sought to relate the two closely so that each complemented the other'.[7]

Van Zanten went on to say

> 'Each of these distinctions are also general distinctions between the way of seeing of the two periods...the first reflecting the materialism and the interest in

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[6] VAN ZANTEN, Introduction and Overview, p.2.
[7] VAN ZANTEN, pp.363-5.

texture of the High Victorian style, the second and third reflecting the Baroque sense of rhythm and pattern of the third quarter of the century. These distinctions also point up the particular nature of the polychromy of the 1830s: it was essentially anti-materialistic...becoming involved with the motif of "luminism"...and was essentially "painted" in conception...derived from the chromatics of Chevreul and the coloured reconstruction drawings of Greek painted polychromy: practised initially as painted polychromy by Hittorff, Bindesbøll, and von Klenze; and converted into a structural polychromy that accented brilliance of absolute hue, straightness of line, and evenness of pattern. Not only does the architectural polychromy of the 1830s adhere to the general development of taste, but it also permits the deeper implications of this taste at a significant moment when materialism and anti-materialism, Romanticism and rationalism clearly confront each other'.[8]

As one becomes more familiar through research into British architectural polychromy during the period 1840-70 the shortcomings of van Zanten's method of exploring his subject through 'simple documentation and formal analysis' become more and more apparent. There is more than a shred of suspicion at times that the examples selected have been forced to suit the theory, as a few straightforward examples will show. It is simply not the case that Owen Jones derived his chromatics from 'the coloured reconstruction drawings of Greek painted polychromy'. As Chapter II will make clear it was the Alhambra which was the principal source for Jones of his colour theories. He made it clear that there was insufficient knowledge (at that time) about the way the ancient Greeks had used colour to make that the basis of reconstructions. Some of the examples used may in terms of 'formal analysis' fit within concepts perceived as being those of the 1830s but several were, in fact, of a later period. For example, Bindesbøll's Thorwaldsen Museum, Copenhagen, was not built until 1838-44; and Jones's Crystal Palace internal colouring really developed from his colour theories of the 1840s. More seriously though, the absence of 'the myriad links and analogies' to which van Zanten refers, means that a very important component in the development of polychromy has not received the attention which it warrants.

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[8] VAN ZANTEN, pp. 363-5.

Chapter Four of van Zanten's thesis is concerned with explaining the transition from painted to structural polychromy and it sets out to highlight the underlying differences which existed between the structural polychromy of the 1830s and that of the 1850s. A rapid guided tour is taken around Europe to show a variety of ways in which coloured building materials were put to different architectural purposes. This commences with what van Zanten terms 'painted polychromy made permanent' and is exemplified by the encaustic murals on the external walls of the Thorwaldsen Museum, Copenhagen. The influence of Islamic and Italian mediaeval structural polychromy is then considered with references to the form of structural polychromy by application of permanently coloured materials as a veneer to the structural wall. In regard to Britain, examples of this form of structural polychromy, such as those used by Godwin at Northampton Town Hall or by Butterfield at Balliol College, Oxford, might have been cited, but instead van Zanten merely refers to Ruskin's works, *The Seven Lamps of Architecture* and *The Stones of Venice*, as 'establishing the motif of Italian Gothic marble *placage* in English architectural criticism if not in English High Victorian architectural design.'[9] From this point van Zanten moves on to the work of Schinkel in Prussia in order 'to get an idea of both the range of techniques of 1830s structural polychromy and of its accompanying wide eclectism'. The work of Zanth at the Villa Wilhelma at Cannstadt, near Stuttgart in Germany is then described as a building in which structural polychromy was an important element, but one which was used in an abstract way, unrelated to the architectural structure which it covers. From Germany the trail then leads us across the North Sea to London where James Wild's Christ Church, Streatham is examined in detail, since its early use of structural polychromy could be seen to herald the High Victorian style in England. The chapter concludes with a

[9] VAN ZANTEN, p.316.

section in which the structural polychromy of the 1830s is compared and contrasted with that of the 1850s.

So much space has been devoted by this time to discussion of 1830s models in France, Germany, Denmark and England that discussion of the English High Victorian examples has to be quite perfunctory. Van Zanten admits as much:

> 'Some broad generalities must be made about High Victorian colour, and to limit the sample, the work of the two architects least involved with the former developments in polychromy...Butterfield and Street...will be accented over those of Burges and Deane and Woodward. (Continental polychromy during the 1850s was considerably less interesting than High Victorian colour and was generally a continuation of the polychromy of the 1830s).[10]

All Saints, Boyne Hill, Maidenhead, All Saints, Margaret Street, London and St James the Less, Westminster are then made the representatives of High Victorian structural polychromy for the purposes of analysis and comparison.

There seem to be three problems arising from the methods which van Zanten has adopted for highlighting the differences in polychromy between the two periods. The first is that the examples tend to create an artificial and misleading distinction between colour as represented by different architectural traditions. Although this study concentrates upon the Gothic tradition and its revival, it has sought to show that practitioners of the mid-nineteenth century drew their colour knowledge not only from this tradition, but equally from the antique and Islamic traditions. The second problem is that by exploring his subject through 'simple documentation and formal analysis'; describing what may be observed in the polychromatic features of High Victorian architecture in terms of surface, form and texture, we are left with a partial and very superficial understanding of how it differed from the architecture of the 1830s. This study has attempted to look beneath the surface and establish the relationship between the use of architectural colour and the development of various principles of colour. In

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[10] VAN ZANTEN, p.354.

this regard Jones's principles have provided a benchmark for the purpose of making comparisons. The absence of the 'myriad links and analogies', which is a further problem in van Zanten's thesis, means that a very important component in the development of polychromy has been left out of the discussion. As the following chapters will show, for example, the transition from painted to structural polychromy in Gothic Revival religious architecture cannot be fully understood without an appreciation that 'development' of Gothic architecture was an outward sign of doctrinal 'development' in the Anglican Church.

In *The High Victorian Movement in Architecture 1850-70* (1972) Stefan Muthesius developed an account of mid-Victorian architecture which reacted against the 'formal analysis' approach of Hitchcock and paid far more attention to ecclesiological issues than previous historians. In his Introduction Muthesius summarised what he saw as the main formal elements of the High Victorian movement, citing amongst them the tendency for wall surfaces to be kept flat, 'varied only by that indisputably High Victorian element, the polychromy of different materials,'[11] He then went on to point out that purely formal descriptions of buildings (by which he meant their visual aspects) might seem 'more relevant than the investigation of the meaning of these forms, historical or otherwise historical,[12] but this method of analysis was currently regarded as too narrow to provide a balanced picture:

> '...recent iconological research in art and architectural history, as well as sociological methods, have to a large extent replaced the methods of purely formal description, because they are thought to provide a greater degree of objectivity.[13]

From this he concluded,

> 'What seems to follow for the student of Victorian architecture is that, in addition to the formal description of buildings, one ought to be able to trace the

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[11] MUTHESIUS, STEFAN (1972), *The High Victorian Movement in Architecture, 1850-70* (London: Routledge & Kegan Paul), Introduction p. xvi. (Referenced hereafter as MUTHESIUS).
[12] MUTHESIUS, p. xvi.
[13] MUTHESIUS, p. xvi.

> origin of this very notion of pure form; how did it develop out of the symbolical connotations of architectural forms and how did it relate to the social, functional and moral considerations in architecture?'[14]

The part which constructional polychromy played in High Victorian architecture is considered at some length in Muthesius's work. One chapter is devoted to 'brick and constructional polychromy in the work of Butterfield and White', but although this title suggests that polychromy is the principal theme under review, in practice it is only one of the threads of a tapestry which illustrates the period, and which continues into the following chapter concerned with the work of Street and others from 1855-60. Muthesius is not so much interested in the colour effects produced by the materials of examples which he cites as in the underlying architectural purpose of polychromy. Yet in spite of this his actual discussion of the subject in terms of the meaning behind its use, the underlying intentions of the architect, and the consequences which its use brought about, do not entirely live up to the expectations created by the passage quoted in his Introduction.

One aspect which Muthesius touches on is the way the role of polychromy can change in the hands of an individual architect. In regard to Street's work, for instance, he shows how the strong and rich polychromy used at the churches at Chalfont St Peter and at Boyne Hill, shortly after his travels in Italy, gave way to a much more restricted use of the medium for the Crimean memorial church in Constantinople. There it was limited just to continuous coloured bands to emphasise horizontality and then in the Lille cathedral competition theme it varied again with polychromy being used to give a horizontal continuity of surface. It is disappointing that these interesting themes were not more fully developed and illustrated.

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[14] MUTHESIUS, p. xvi.

Paul Thompson's *William Butterfield*[15] adopted a similar method of critical analysis to Muthesius but his book is confined to the examination of one architect's works. It also provides an excellent analysis of the part which colour played in his work. Discussion of the way in which colour is a constituent of his design takes place in three chapters, one considering the way the wall element developed in his buildings and the part that constructional polychrome played in this; another chapter concerned with the roof and a third with the subject of colour itself. Thompson challenges those who believed Butterfield's use of colour to be random and explains that, on the contrary, it seems that his designs were organised on the basis of a hierarchy. For example:

> 'In his churches, for example, decoration is concentrated upon the sanctuary. Very often all the walls are bare, except for a rich display of alabaster or tile patterns behind the altar. Invariably the tile floors become progressively richer towards the east; very often the nave will be purely red and black, while in the chancel stone will be added, and patterned yellow tiles, with perhaps sea-blue also in the sanctuary. The point is emphasised by the arrangement of the sanctuary steps, which encircle the altar on three sides.[16]

In contrast to *The High Victorian Movement*, Thompson's work benefits from coloured illustrations which compliment the text.

As long ago as 1972 Nikolaus Pevsner remarked in his book *Some Architectural Writers of the Nineteenth Century*:

> 'There is no book on Owen Jones yet...a serious gap in the historiography of Victorian design.'[17]

If there is any one person who connects the theoretical interest in colour and the practical in the nineteenth century it is Owen Jones but a book on him has yet to appear.

Two years after Pevsner had made his remark Michael Darby produced a study of Owen

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[15] THOMPSON, PAUL (1971), *William Butterfield*, (Cambridge, Mass: MIT Press). (Referenced herafter as THOMPSON : *William Butterfield*).
[16] THOMPSON: *William Butterfield,* p.18.
[17] PEVSNER, NIKOLAUS (1972), *Some Architectural Writers of the Nineteenth Century* (Oxford: Clarendon Press), p. 157.

Jones in his thesis entitled 'Owen Jones and the Eastern Ideal' (1974)[18] which dealt extensively with Jones's participation in the development of chromolithography of book design and other aspects of the decorative arts in Britain, but paid less attention to his architectural achievements. Nearly twenty-five years later Carol Flores has done much to fulfil Pevsner's hope that there should be a work on Jones which does proper justice to him by producing her dissertation 'Owen Jones. Architect'. In this Flores has focused on Jones's roles as an architectural theorist and practitioner, rightly claiming that,

> 'this dissertation both adds new information to the study of Jones and provides a reassessment of his importance and effectiveness as both a practising and theoretical architect.'[19]

Flores believes that Jones's importance in architectural history has been undervalued, pointing out that hitherto most architectural historians had tended to either eliminate Jones or limit their references to an acknowledgement of his authorship of *The Grammar of Ornament* and to his role as the Superintendent of Works for the Great Exhibition of 1851 in Hyde Park. Flores contends that her dissertation provides evidence to redress this situation and that it approaches the investigation of Jones from a new perspective. Beyond this she has also attempted to demonstrate certain positions which, as she points out, 'are not currently acknowledged in studies of nineteenth-century architecture.'[20] One of these is that:

> 'Ruskin developed many of his positions specifically to refute Jones, the dominant theoretical figure, in the fifties and sixties.'[21]

In support of this contention Flores makes extensive reference to Ruskin's lecture entitled 'The General Principles of Colour' which he had delivered in 1854: this had purported to set out his own principles but seems to have had as its main objective the

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[18] DARBY, MICHAEL (1974), 'Owen Jones and the Eastern Ideal', unpublished PhD thesis (Reading University). (Referenced hereafter as DARBY: 'Eastern Ideal').
[19] FLORES, CAROL (1996), 'Owen Jones. Architect', unpublished PhD thesis (Georgia Institute of Technology: UMI), p. 2. (Referenced hereafter as FLORES).
[20] FLORES, p. 4.
[21] FLORES, p. 4.

contradiction of Jones's principles, recently published as a pamphlet and distributed to the Government Schools of Design.

Yet the questions which have to be asked are, how much can we learn about Jones from reading Ruskin's lecture and how useful is it, really, to make comparisons between the different approaches to colour of the two men? A prime reason why there was little agreement between Jones and Ruskin in regard to principles affecting colour and form is that they had such totally different ways of seeing things. As an architect and designer, Jones was concerned with that creative process which involves first seeing a design in the mind's eye and then turning it into built substance. By contrast, Ruskin was essentially an observer and painter of buildings. The point has already been made that very little has been written about Jones and it is only quite recently there has been increased interest in his work. By contrast Ruskin, the writer whose contribution towards the subject of colour was the greatest has generated a stream of comment about his work. In spite of this not a great deal has been written about Ruskin's attitudes towards architectural colour. The likely reason for this is that much of what Ruskin has to say about colour has to do with painting rather than architecture. If we look at two recent books which discuss Ruskin and architecture what do we discover? In the first of these, *Looking at Architecture with Ruskin*, John Unrau surveys Ruskin's contribution as an observer and analyst of architectural composition. As the author remarks in his Preface, it deliberately ignores the ethical, religious and historical theories woven around architecture in his writings. Instead, it concentrates on passages in his works which illustrate his manner of looking at buildings by reference to illustrations (many of which are Ruskin drawings but unfortunately mostly black and white) and analyses the ideas which they contain. Above all, Ruskin's manner of perception brought with it an awareness of the constantly shifting effects of light upon colour and form, something which could never be defined in a set of principles. As Unrau points out, Ruskin was

always aware of the difficulties of recording architectural colour because of the effects of changing light and had commented in regard to St Mark's Venice, that it was dangerous for him to endeavour to illustrate his meaning, except by reference to the work itself. Even though this thesis has endeavoured to reproduce the colours of buildings as accurately as possible, these remarks come as a reminder that any colour only appears as the camera saw it in the light of the moment.

Unrau is also keenly aware of the difficulties of writing about colour:

> Colour has proved a continual embarrassment to architectural writers concerned that their study of buildings should be strictly accurate and systematic, for it is difficult - perhaps ultimately impossible - to reduce the visual complexities introduced by colour to categories that lend themselves to analysis. A common procedure in Ruskin's day was to deny that colour is in fact, an important aesthetic consideration in architecture, and to proceed contentedly to think about buildings in black and white.'[22]

The second book, Michael Brooks's *John Ruskin and Victorian Architecture*[23] is concerned with the part a literary background played in forming Ruskin's way of looking at architecture. The difference between this and other works which have attempted to assess Ruskin's impact on Victorian architecture is that he judges him, not from the viewpoint of an architect or an architectural historian but as a professor of English.[24] On the face of it, this might not appear to be the best qualification for making an assessment of Ruskin's contribution but, as he shows in a passage which deals with the way Ruskin came to adopt certain attitudes towards colour in buildings, it enables him to have certain insights overlooked by others.

In explaining how Ruskin first came to be interested in architecture he remarks on what he calls 'his architectural education'.

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[22] UNRAU, JOHN (1978), *Looking at Architecture with Ruskin* (London: Thames & Hudson), p. 140. (Referenced hereafter as UNRAU).
[23] BROOKS, MICHAEL, W. (1987), *John Ruskin and Victorian Architecture,* (New Brunswick: Rutgers University Press), pp. 1 & 2. (referenced hereafter as BROOKS).
[24] At the time of writing his book, Michael Brooks was Professor of English at West Chester University, USA.

> 'His training in literature kept him aware that a building is an act of expression, not merely a utilitarian artefact. His training in watercolour made him sensitive to qualities of colour and texture which were undervalued in early Victorian churches and public buildings. The fact that Ruskin first experienced buildings as parts of sublime or picturesque scenes had a determining influence on his theories'.[25]

Brooks then shows how the young Ruskin came to appreciate how important it was that the colour of buildings should be considered in relation to their setting. Ruskin family holidays were often taken in the Lake District and much of John Ruskin's introduction to the sublime and the picturesque came from William Wordsworth's *Guide Through the District of the Lakes* (1823).

At this time the Lake District had become popular and many new villas were being built in the area. Wordsworth's *Guide* compared the native cottages of the area with these new buildings and pointed out that they tended to jar with their setting, while the cottages harmonised with it. In asking how this could be avoided Wordsworth had offered some words of practical advice to builders and one of them was on the question of colour.

> 'The colour of a building should always be keyed to the overall harmony of its surroundings. The predominant colour of the district is a bluish grey derived from both the stones and the lichen that cover them. This is often modified by a red tinge added by the iron content of the soil. If a gentleman builds where the iron content is rich, he need only hew his stone from the nearest quarry and harmony will be assured. If the iron content is low, however, the landscape will suffer from what Wordsworth calls the chief defect of the area - an excessive prevalence of a bluish tint. In this case, the villa builder should choose a warm colour capable of enlivening but not disturbing the countryside.'[26]

Brooks adds the comment that since Wordsworth wrote his *Guide* from a landscape artist's point of view this must have been impressive to a young boy who was developing his skills as an artist. Not surprisingly, Wordsworth's influence merges with that of Ruskin's instructors in watercolour. So, it appears that Ruskin himself was early

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[25] BROOKS, pp.1-2.
[26] BROOKS, pp. 3-4.

on inspired by a writer and poet.[27] In fact, it is striking how much the whole question of polychromy was influenced by ideas which had first appeared in literature during the period under review. It is a reminder of the existence of a literary tradition of thinking and writing about architectural colour as part of the picturesque – a tradition more concerned with the perception of architecture and landscape than with their design.

That the written word did much to create an enthusiasm for colour during the middle of the nineteenth century in Britain is borne out by Bristow in the more recent study of architectural colour, *Architectural Colour in British Interiors 1615-1840*,[28] where towards the end he discusses the changes in perception of colour which were taking place at that time. Bristow shows how the publication of Goethe's *Zur Farbenlehre* in 1810, and the theories which it put forward, influenced a whole generation of writers concerned with architectural colour. The actual impact of Goethe's work will be dealt with in the first chapter. However, Bristow's work is the outcome of a very different approach to the study of architectural colour, based as it is to a large extent upon the knowledge gained from technical analysis of executed works. His two books *Architectural Colour in British Interiors 1615-1840* and *Interior House Colours and Technology 1615-1840* are published as companion volumes but deal with two different but complementary facets. The former volume deals with the aesthetic ends to which colour was put while the latter 'concentrates on the materials available to the house painter during the period, the ways in which they were combined to make paint of various types, the manner in which the latter was applied, and the different colours which could be mixed.'[29] As Bristow explains,[30] the overall aim of his research

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[27] RUSKIN, *The Poetry of Architecture* (1837-38), Works I pp. 66-72. This literary way of perceiving a building as part of the landscape and the importance of these associations between architectural colour and natural scenery may be seen in this early work written under the nom de plume, KATA PHUSIN.
[28] BRISTOW, IAN C. (1996), *Architectural Colour in British Interiors 1615-1840*, (New Haven:Yale University Press), preface xviii. (referenced hereafter as BRISTOW: *Architectural Colour*).
[29] BRISTOW, IAN C. (1996), *Interior House Colours and Technology 1615-1840*, (New Haven:Yale University Press), preface xi. (referenced hereafter: BRISTOW, *Interior House Colours).*

had been an understanding of the architectural uses of colour but the technical studies were essential as a basis for it. Knowledge of paint colours used during the period is based to a great extent on careful examination (usually by means of a microscope) of samples of interiors where original colours have been obliterated by subsequent schemes of redecoration. This information is supplemented by study and interpretation of archive building accounts. From the information gathered in this way Bristow has been able to build up a library of information which can be used for architectural detective work or for the restoration, or even recreation, of historic interiors. The information can either, for instance, be used to date the original decorations of an historic interior or it can be used for reproducing colours to match the decorative scheme which was employed at any given time in the interior's history. It is therefore an altogether more archaeological approach to the architectural use of historic colour.

One of the many interesting aspects of Bristow's work is that it reminds us that colours are not always selected for aesthetic reasons alone. Architectural colour is after all just another aspect of building work and as such it is dependent on the funds available. Like other building materials the pigments used in paint can vary quite considerably in price so the ideal is not always affordable. Just as it might be today, a colour scheme in the past may be a compromise on the part of the client or the architect for purely economic reasons.

Bristow's research provides us with the evidence for the exact, specific hues of colours as they were used but the question of how those colours were perceived is more difficult to establish. This absorbing topic of trying to see colour through the eyes of another age is developed much more extensively in John Gage's remarkable *Colour and Culture*. In the introduction to this work Gage draws attention to the special difficulties

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[30] BRISTOW, *Interior House Colours*, p. xi.

encountered in writing about colour in the past since the whole book is devoted to a series of themes dealing with how colour entered into the thinking of past ages:

> 'I wanted to identify, isolate and understand sets of circumstances which are inseparable from the past, not to take the critical position of making of the past a sort of honorary present. Yet how art, which is so vividly present to us, can be set in its own (past) 'present' is an issue of the greatest difficulty, one which the most recent approaches to art-historical writing have only been able to accommodate by ignoring. Colour compounds the problem, for in what sense is the colour which I perceive in an artifact not 'present'? I may recognise from the style of the work that it belongs to a particular time which is not ours but how can I say the same for its colours? Is not red the same whenever and wherever it is seen? To find the historical dimensions of colour I had to look at artifacts and at the colour language of the periods in question;....this was an exceedingly problematic issue'.[31]

Most of the artifacts to which Gage refers are paintings but the problem of how an observer in the present interprets the colours of a work in the past is no less an issue for the consideration of colour in architecture.

As an example of the way in which perceptions of colour change, we may consider the comments by Peter Nicholson which appeared in the 1823 edition of *The New Practical Builder*:

> 'We see many very beautiful pieces of workmanship in Red Brick; but this should not tempt the judicious architect to admit them into the front walls of buildings. In the first place, the colour is fiery and disagreeable to the eye; and, in the summer, it has an appearance of heat that is very disagreeable; for this reason it is most improper in the country, though the oftenest used there, from the difficulty of getting gray. But a farther consideration is, that, in the fronts of most important buildings, there is more or less stone-work; now, as there should be as much conformity as can be attained between the general nakedness of the wall and those several ornaments which project from it; the nearer they are of a colour, the better they always range together; and if we cast our eyes upon two houses, the one of red, and the other of gray brick, where there is a little stone-work, we shall not be a moment in doubt which to prefer. There is something harsh in the transition from the red brick to stone, and it seems altogether unnatural; in the other, the Gray Stocks come so near the colour of stone, that the change is less violent, and they sort better together. Hence, also, the Gray Stocks are to be considered as best coloured when they have least of the yellow cast; for the nearer they come to the colour of stone, when they are to be used together with it, it is certainly the better.'[32]

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[31] GAGE, JOHN (1993), *Colour and Culture* (London: Thames and Hudson), p.8.
[32] NICHOLSON, PETER (1823) *The New Practical Builder and Workman's Companion* (London: Thomas Kelly), pp. 346-7.

With the hindsight that our knowledge of mid-Victorian architecture gives us we now find such a point of view surprising, and it is difficult for us to recreate the state of mind with which Nicholson and his contemporaries saw the colours of bricks. Gage's insights into the problems of perception of colour relate primarily to works of art, and his insights and approach have as yet had little impact upon architectural history. We have to accept that what may today seem 'glaring' or 'vulgar' to the eye may not have done so in the past, and vice versa.

CHAPTER I

Towards a new perception of colour

The thirty-year period on which this study focuses, the years 1840-1870, covers a period when architectural colour took on an importance altogether greater than in the period which it succeeded. The fact that this took place is not just reflected by the architecture itself but also by the extent to which the subject was written about and discussed during those years. While turning-points in architectural style can sometimes be put down to features introduced by a highly original, innovative architect or group of architects, we are here talking about something less concrete for this interest in the use of colour came at a time of stylistic uncertainty. What is more, colour had no boundaries when it came to style. Neo-Classical buildings, Neo-Gothic buildings and engineering structures were all subject to colouration and to arguments about colour.

It is not easy to pin down the processes by which colour came to enter into architectural thought during this period. There are a variety of reasons for this happening at the time it did and no one of them can be singled out as being the principal cause for the change in perception which took place. What one can say, however, is that by 1840 the agents for change, some of which had been in train for a number of years, suddenly began to interact with one another to create a new sensibility of colour. While one can in general terms talk about a reaction against established taste, it is possible to be more specific about the features of this. Four of the principal aspects of change are discussed in the following pages under the headings:

- Winckelmann and the Cult of 'Whiteness'
- Exploration in Egypt and the Near East
- The Survival of Medieval Polychromy
- The Impact of Colour Theory

Winckelmann and the Cult of 'Whiteness'

For the last quarter of the eighteenth century, the theorist and historian of art, Johann Joachim Winckelmann (1717-68), exerted a considerable influence on the artistic taste of the cognoscenti in Britain through translations of his books and through the works of later German writers, including Lessing, Schiller, the Schlegel brothers and Goethe.[1] At a time when ancient Greek civilisation was already regarded as a golden age of artistic achievement Winckelmann maintained the concept that Greek sculpture embodied ideal beauty and set the standards by which both old and new sculptures were to be judged.

Although by the time he published his work *Geschichte der Kunst des Altertums* in 1764, rumours of antique polychromy were already in circulation, Winckelmann took the view that 'a body is all the more beautiful the whiter it is'[2] and maintained that the use of colour could actually reduce the clarity of plastic form. The antique statuary on which Winckelmann based his views was either black, being patinated bronze, or white, since it was of marble, so his judgement was formed on the basis of a limited selection of examples. Many of the Roman sculptures excavated during the Renaissance were copies of Greek originals which would have been painted, so their appearance, particularly after they had been scrubbed and polished, was quite unlike that in ancient times.

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[1] TURNER, FRANK (1981): *The Greek Heritage in Victorian Britain* (New Haven: Yale University Press), p.41

[2] BLÜHM, ANDREAS and CURTIS, PENELOPE (eds.) (1996): *The Colour of Sculpture*, Drost, Wolfgang, 'Colour Sculpture Mimesis', (Amsterdam: Van Gogh Museum and Leeds:Henry Moore Institute), p.62 (referenced hereafter as *Colour of Sculpture*)

Winckelmann's arguments in favour of white sculpture had the benefit further of coinciding with Plato's views on the subject. As Wolfgang Drost has pointed out,[3] Plato particularly objected to colour on statuary because he thought it detracted from the 'philosophical knowledge of the truth' - the idea beneath the visible surface - of the object. The white dematerialised the stone and gave the figures a sublime and noble appearance. In their white state the marbles were dissociated from reality and made them seem 'philosophically pure' and beautiful in a way which followed the Platonic theory of ideas. Winckelmann's contention that the beauty of Greek sculpture lay in its unadorned form was very influential with the British artistic establishment at the end of the eighteenth century, particularly in the person of Sir Joshua Reynolds (1723-1792), the President of the Royal Academy between 1769 and 1790. Reynolds was the generator of a strict attitude to what may be termed moral aesthetics. These views were to influence a whole generation of artists at the beginning of the nineteenth century and did much to shape their attitudes towards Greek polychromy. Reynolds's acceptance of Winckelmann's concept of a white ideal beauty for sculpture is particularly important because of the moral content which he invested in it. During the period of his Presidency, Reynolds delivered a series of Discourses to students at the Royal Academy and in his tenth one he deplored the application of colour to stone on the grounds of its sensuous appeal and subsequent lowering of the morality of sculpture.

> 'If the business of sculpture were to administer pleasure to ignorance, or were entertainment to the senses, the Venus of Medicis might certainly receive much improvement by colour; but the grave and austere character of sculpture makes it her duty to afford delight of a different, and perhaps, of a higher kind, the delight resulting from the contemplation of perfect beauty; and this, which is in truth an intellectual pleasure, is in many respects incompatible with what is merely addressed to the senses, such as that with which ignorance and levity contemplate elegance of form'.[4]

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[3] *The Colour of Sculpture*, pp.61-2

[4] REYNOLDS, JOSHUA (1819): *A Discourse delivered to the Students of the Royal Academy on the Distribution of the Prizes, December 11, 1780 by the President.* (London: Cadell) pp.12-13

Later, these views were to play a leading part in the controversy which surrounded painted polychromy in mid-Victorian Britain and the obsession with moral aesthetics which distinguish the nineteenth century from the eighteenth.

Had Winckelmann's and Reynolds's influence been confined to statuary alone it might have had less significance, but their views counted for a great deal once the debate about the colouring of ancient Greek architecture got under way. During their visit to Athens in 1760 James Stuart and Nicholas Revett had observed the existence of applied colour in isolated places on buildings and this was noted in Volume 1 of *The Antiquities of Athens*.[5] These observations did nothing, however, to change the generally held view that ancient Greek architecture had been white. By 1800 the picture of antiquity which was generally held in European academic circles was that colour had played a major part in non-Greek (barbaric) architecture, had been applied in a more limited way to early Greek architecture, disappeared with the high art of Pericles, then returned as a practice during the decline of art under the Romans.

Over the next fifteen years British travellers to Greece and Asia Minor played a leading part[6] in establishing beyond doubt that ancient Greek buildings and sculpture had been painted, contrary to beliefs then held. Between the years 1801 and 1808 the Englishmen William Leake, William Wilkins and Edward Dodwell travelled in Greece and reported on the application of colour to architectural surfaces and sculptures; Dodwell noted that blue, red and yellow paint had been found on the cornice of the Parthenon. In his report he added that:

> 'It is difficult to reconcile to our minds the idea of polychrome temples and statues; but it is certain that the practice was familiar to the Greeks in the earliest times, and even in the age of Pericles. No doubt all the Grecian temples

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[5] STUART, JAMES and REVETT, NICHOLAS (1762): *The Antiquities of Athens*, (London), Vol I, description of Pl. VIII

[6] HELLMAN, MARIE-CHRISTINE and FRAISSE, PHILLIPE (1982): *Paris-Rome-Athenes* (Paris: Ecole Supériere des Beaux-Arts), pp.27-8.

were ornamented in the same manner...with the highest finish and greatest elegance corresponding with the sculptural parts'.[7]

Far more conclusive evidence became available shortly afterwards when excavations were carried out during 1811 by C.R. Cockerell (1788-1863) and Carl Haller von Hallerstein (1774-1817) at the Temples of Jupiter, Panhellenius, at Aegina and Apollo Epicurius at Bassae, near Phigalea, in Arcadia. Cockerell and Haller von Hallerstein's discoveries were not reported in full until 1860 but in 1819 Cockerell wrote in *The Quarterly Journal of Literature, Science and the Arts:*

> 'In the temple of Aegina, we have a very remarkable and very ancient example of the practice which prevailed among the Greeks, of painting their sculpture, for the style and execution of the colours found on the statues and ornaments of the temple, prove that they cannot be of any other date than the original construction'.[8]

Cockerell later confirmed that his discoveries coincided with ancient writings concerning the painting of architectural sculpture and in commenting on plates which illustrated the East Front of Jupiter Panhellenius (Fig. 1.1) he noted:

> 'The colours exhibited in the Plates VII and IX were in encaustic manner described by Vitruvius VII, 9, 10, 11, 12 etc. It cannot be doubted that, in the early stages of Greece, the practice was so general as to establish, as respected the Doric at least, a scarcely varying principle and mode of adapting the colours to the several members'.[9]

By taking these examples and comparing them with the findings of other archaeologists, Cockerell was able to show that polychromy was not a random practice but was in general use when Greece's artistic achievements were at their peak. Furthermore, he was able to show that the colours had been applied in a systematic way to ornament.

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[7] DODWELL, EDWARD (1819): *A Classical and Topographical Tour through Greece, during the years 1801, 1805 and 1808*, Vol. 1 (London: Rodwell and Martin), pp.342-3

[8] COCKERELL, CHARLES R. (1819): *The Quarterly Journal of Literature, Science and the Arts*, Vol. 6, No. 12, (London: John Murray) p.340

[9] COCKERELL, CHARLES R. (1860): *The Temples of Jupiter Panhellenius at Aegina &c.*, (London: John Weale), (Fig I.1)

The activities of Cockerell and his English colleagues were of considerable interest at this time to the French architectural theorist, Antoine-Chrystostôme Quatremère de Quincy (1755-1849). As a follower of Winckelmann, Quatremère had developed a great interest in Roman statuary but as he gained greater knowledge of the subject and realised that many of the statues were inferior copies of lost Greek originals, he began to research ancient classical texts so as to find out more about them. These texts, particularly those of Pliny and Pausanias, suggested to him that many richer materials other than marble had been used by the Greeks in their sculpture but since they were of more perishable substances they had disappeared over the years only leaving the stone. Quatremère's research into polychrome sculpture brought about a realisation that some of the major statues of the time, figures of Greek gods located within the cella of a temple, had been chryselephantine sculptures (i.e. mainly formed of gold and ivory) and not just carved from marble.[10] The results of this research were published in a magnificently illustrated volume in 1815 entitled *Le Jupiter Olympien.*[11] (Fig. I.2).

Shortly after publication of this work the Elgin Marbles arrived at the British Museum[12] and in 1818 Quatremère decided to visit London to see them for himself. Up to the time of seeing the Elgin Marbles, Quatremère's research had been essentially based on classical texts: the visit was therefore of dual importance in that, apart from giving him a chance to appreciate the sheer quality of Greek modelling and composition, it also made him realise that sculpture need be no less important for being architectural.[13] In *Le Jupiter Olympien* Quatremère chose to explain his theories of chryselephantine sculpture by means of detailed coloured visualisations of the temple

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[10] LUKE, Y. (1996): *Quatremère de Quincy's Role in the Revival of Polychromy in Sculpture* (Leeds: The Centre for the Study of Sculpture, The Henry Moore Institute), p.3

[11] QUATREMÈRE DE QUINCY, ANTOINE-CHRYSOTÔME (1815):*Le Jupiter Olympien, ou l'art de la sculpture antique considéré sous un nouveau point de vue: ouvrage qui comprend un essai sur le gout de las sculpture polychrome*, (Paris: Bure Frères)

[12] Deposited at Montagu House on 20 October, 1815 (British Museum Archives .Minutes of the Standing Committee of Trustees, C.214, 11 November 1815).

figures standing in their surroundings (Fig. I.2) - an approach which contrasted with those of his archaeologist contemporaries who tended to produce factual measured drawings of their subjects as they then stood. As van Zanten has pointed out,[14] Quatremère's reconstructions 'caused him to become involved with a visualisation which could not be insulated from contemporary taste.'

By the time *Le Jupiter Olympien* had been published, Quatremère was a respected figure in the French Académie des Beaux Arts and this brought him into contact with some of the liveliest young architects in Paris setting out on their careers. Jakob Ignaz Hittorff (1792-1867) was such an individual and in 1820 he was encouraged by Quatremère to visit London and see the Elgin Marbles for himself. This visit seems to have been doubly significant for in addition to giving him an opportunity of seeing the Marbles it brought him into contact with a group of English architects, including T.L. Donaldson, who would eventually shape events to come concerning the interpretation of ancient Greek polychromy. Donaldson, who was to become a close friend of Hittorff in due course, was a prominent member of the Institute of British Architects. Further, he was a central figure in that group of English architects and archaeologists who had not only toured and excavated in Greece, but had seen traces of colour on Greek temples. The principal members of this group were William Kinnaird, Joseph Woods, Charles Robert Cockerell and Charles Barry. At this time Donaldson was engaged in preparing an essay in which he put forward a hypothesis for the extensive use of colour decoration in Greek architecture, based on the reports of Kinnaird and Barry and this proved to be of considerable interest to Hittorff. His visit to England was followed in 1821 by travel to Germany and Berlin where he met Karl Friedrich Schinkel. This extended educational tour developed Hittorff's interest in

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[13] JENKINS: p.27
[14] VAN ZANTEN: p.23

archaeology and in 1822 he resolved with his colleague Ludwig von Zanth (1794-1857) to visit Italy in order to take part in archaeological excavations. During their residence in Rome, Hittorff and Zanth received reports of an excavation in Selinus, Sicily, which produced evidence of original colour which had survived on the metopes of an ancient temple. The discovery had been made during March 1823 by the British archaeologists William Harris and Samuel Angell but work had come to an untimely end with the death of Harris from malaria. Hittorff realised that this could be a significant find and set off for Sicily with von Zanth to visit the temple site and carry out further excavations.

On the strength of their investigations of the site at Selinus, Hittorff and von Zanth published, between 1827 and 1830, three coloured renderings of the entablature and ceiling of the temple.[15] These were followed in 1830 by a paper for the Academie des Beaux-Arts which presented Hittorff's ideas on polychromy which had been evolving since his time in Sicily. These were developed within a general theory, or what he called a 'system' of polychromy. He proposed that a single system of colour had been used in all Greek classical architecture and it could be compared to a system of orders, in that it was the means by which the special character of a building could be expressed. Hittorff then developed his argument to claim that while the orders in Greek architecture remained simple and unchanging, colour had been the medium through which the building's importance and meaning became articulated.

While other contemporary publications such as William Kinnaird's new edition of *The Antiquities of Athens*, published in 1825, and Cockerell's references to colour at the Temple of Jupiter, (Olympus) at Agrigentum, published at the same time, provided firm support for Hittorff's ideas on colour in principle, there was an inherent weakness

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[15] HITTORFF, JAKOB IGNAZ and ZANTH, LUDWIG (1827): *Architecture antique de la Sicile* (Paris: Jules Renouard), pls. 17, 40, 47

in the basis of his theories. His restoration of the Temple of Empedocles at Selinus published later in 1851,[16] (Fig.I.3) was not based purely on fragments of colour which had been found on the site but was built up like a patchwork from a number of ancient sites known to include Aegina, Rhamnus, Catania, Pompeii, Tarquinia and Jerusalem. This apparent lack of rigour in the way his theories were developed might have prevented them from receiving serious attention and, indeed, he came under serious criticism from art historians and archaeologists alike. Where Hittorff's work differed from English architect/archaeologist contemporaries like Cockerell, Wilkins and Donaldson, was that his visualisation of Greek polychromy showed a new way forward to the use of colour in modern nineteenth century architecture, away from the severe white neo-classic style which then prevailed. By his own example on a number of projects, but especially at the church of St Vincent de Paul in Paris (1832-44), Hittorff showed how the polychrome of the Greeks could have a new relevance to an architecture of the time. As van Zanten has shown Hittorff's ideas concerning polychromy, as a way of liberating neo-classic architecture from a limited vocabulary of design, were to exert a powerful influence on a number of his colleagues in France. In spite of the links which existed in the field of archaeology between British and French architects these ideas concerning a modern development of polychromy seem to have fallen on stony ground in Britain and there was no desire to follow the French lead in that direction. Although Cockerell had been so actively involved in establishing the fact that the ancient Greeks had painted their buildings with bright colours, for him this was no reason why he should apply paint to his own buildings. He had fundamental doubts about the notion of producing neo-Greek buildings, his keen sense of historical continuity and tradition making him reject the archaeological notion of a Greek

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[16] HITTORFF, JAKOB IGNAZ (1851): *Restitution du temple d'Empédocle à Sélinunte ou L'architecture polychrome chez les grecs* (Paris: Firmin Didot)

Revival.[17] Greek polychromy, it therefore seems, was not part of Cockerell's reinterpretation of Greek neo-classicism. The polychromy which he favoured, and which was featured on buildings such as the Ashmolean Museum, Oxford (1841-45), was that of the Hellenisstic period of Greek culture and of the Romans; the contrast and blending of colours which came from natural materials.

As Cockerell's 1811 excavations with Haller von Hallenstein at Aegina and Bassae indicate, the early part of the century saw a good deal of collaboration between architects and archaeologists of different nationality. This spirit of collaboration sometimes gave way to competition, however, and in 1812 the German archaeologists were more successful than the British in persuading the Turkish authorities to release a large collection of architectural sculpture which had survived at the temple of Artemis Aphaia, Aegina. These sculptures were transported to Rome for restoration by the Danish sculptor Bertel Thorwaldsen, prior to being put on display in the new museum of Ludwig I in Munich, the Glyptothek (1816-30). As Ludwig's architect for the Glyptothek, Leo von Klenze (1784-1864) was not only given responsibility for the design of the building but also for the display of the antique sculpture. Well aware of the recent archaeological discovery of Greek polychromy Klenze made use of colour within the Glyptothek in two quite original ways. In one of the galleries a temple facade was to be erected as a backdrop to the recently acquired Aeginean marbles restored by Thorwaldsen and he persuaded the museum to show the peristyle and metopes coloured yellow with the cella walls red and triglyphs painted blue. In other galleries, where the sculpture was to be displayed, the rooms were treated in a highly original way for a neo-classical building. These rooms were damaged during the Second World War and the decorations not restored. However, a pre-war article in *Country Life* referred to them,

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[17] WATKIN, DAVID (1974): *The Life and Work of C. R. Cockerell, R.A.* (London: Zwemmer) p.65

making an unfavourable comparison between the methods of display in the British Museum sculpture galleries and the Glyptothek:

> '...Klenze realised that antique sculpture was designed to be coloured and to be seen against architecture also picked out in brilliant colours. In Greece, the sculpture was coloured and its actual background predominantly white. Now that the sculpture has lost its colours, Klenze understood that the relation must be reversed and its background be brilliantly coloured, if the original effect was to be to any extent reproduced...the colouring throughout suggests glimpses below the gleaming temples of a blue Aegean, lapping the rocks thyme and myrtle clothed'.[18]

One of Klenze's other surviving Greek Revival masterpieces of the period, the Walhalla (The German Hall of Fame), built between 1830 and 1842 on the banks of the Danube near Regensburg, Bavaria, was also designed with a polychrome interior with the decorations based on Greek motifs (Fig 2.). The year after it was completed a paper was read by John Woolley at the Royal Institute of British Architects describing the building in detail, including a full description of the interior colouring.[19]

For British architects an important source of information at this time about the Glyptothek and other new buildings with polychromatic interiors was J.C. Crace. During 1843 Crace went on a tour which took him from Coblenz, through Switzerland to Venice and then back to Munich, where he remained for several weeks. As he was later to state in a lecture given to the Royal Institute of British Architects in 1843 entitled 'Some Account of the Frescoes in Germany and the North of Italy',[20]

> 'My principal object in travelling was first, to learn the processes employed in Fresco and Encaustic Painting, - secondly to form an opinion as to the effects produced - and thirdly, to judge how far those effects would surpass Painting in Oil, in appearance and in durability'.

In practice, Crace's interest went beyond his first intentions for he was absorbed with the way that Bavarian artists used colour to emphasise the architectural

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[18] ANON. (1929): 'The Munich Glyptothek and the Redecoration of the British Museum', *Country Life*, Vol.65/I, (19 January), pp.69-71

[19] ANON. (1843): Report of a paper read to the RIBA by John Woolley, *Civil Engineer and Architect's Journal*, pp.109-14. The report indicates that the colours used in its restoration differ from the original.

[20] CRACE, J. G (1843): *RIBA Papers*, Vol. 4, 1835-45 (6 November), unpaginated

composition of a building and to set off figurative paintings on the wall surfaces. While in Munich Crace produced many sketches of the interiors which he saw and between 1843 and 1851 they were worked up into a set of finished studio drawings which were used to illustrate a further lecture to the Royal Institute of British Architects in 1851.[21] This series of drawings is now in the collection of the Royal Institute of British Architects.[22]

In addition to Klenze's Glyptothek Crace visited and produced sketches of the polychromatic treatment of the Ludwigskirche (1830) by Gärtner (Fig. IV.29) and the Königsbau, or new wing of the royal palace in Munich, known as the Residentz (1826-35), also by Klenze. As Megan Aldrich has pointed out[23] it was the way in which painted powerful colour had been used with strong contrasts in these buildings which was of particular interest to Crace, rather than the architectural ornament. In spite of Crace's interest in the Glyptothek the collection does not contain any drawings of the interior, nor are there any of Klenze's Walhalla. As a result of Crace's and John Woolley's papers read to members of the RIBA and reports of these in the press, architects in Britain would therefore have been aware of the painted polychromatic treatment of these recent neo-classical buildings in Munich.

Exploration in Egypt and the Near East

At the end of the eighteenth and beginning of the nineteenth centuries the accounts of explorers had provided much evidence for the existence of colour on a number of ancient Egyptian buildings and there was an acceptance, therefore, that colour had played an important part in the architecture of ancient Egyptian civilisations. In this fact lies a major difference between attitudes to ancient Egyptian and Greek

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[21] CRACE, J. G.(1850): 'On the decoration of some of the buildings of Munich', *RIBA Proceedings,* First Series, 1850-51, unpaginated
[22] RIBA Catalogue, CF, pp.51-52

architecture. The existence of colour on ancient Egyptian buildings was a well-established fact. In Greece the paint had vanished and it was not until there was a considerable amount of evidence available that Western academic circles could accept the notion that the ancient Greeks had painted their buildings. Interest in ancient Egyptian colour was manifest in two distinct ways. On the one hand there was an archaeological interest in the way colour had been used but as a taste developed in Britain, late in the eighteenth, for Egyptianisms in interior design, there was a desire to reproduce those kind of colour schemes which had been seen in Egypt. From 1799-1804 Thomas Hope, who had travelled and sketched extensively in Egypt during the 1790s,[24] produced one of the best known examples of an 'Egyptian Room' at his house in Duchess Street, London as part of a group of rooms, designed in a variety of styles to sympathise with his collection of antiquities. In 1807 Hope published the main interiors and contents of this house in Duchess Street in *Household Furniture and Interior Decoration Executed from Designs by Thomas Hope*. The main purpose of this volume was not as a guide to the house and its contents but as a manifesto on Hope's principles of design. In his description of the Egyptian Room Hope explained the intentions behind the design and the ornament,

> 'Happening to possess several Egyptian antiquities, wrought in variously coloured materials, such as granite, serpentine, porphyry and basalt, of which neither the hue nor the workmanship would have accorded with those of any Greek statues, chiefly executed in white marble alone, I thought it best to segregate these former, and to place them in a separate room, of which the decoration in its character, bear some analogy to that of its contents.'[25]

Hope then went on to explain how colour was an essential part of this symbolic grammar of ornament which he had devised for the room:

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[23] ALDRICH, MEGAN (1990): 'The Victorian Craces' in ALDRICH, MEGAN ed.: *The Craces: Royal Decorators 1768-1899*, (Brighton: John Murray) p.71 (referenced hereafter as ALDRICH: 'The Victorian Craces')

[24] MUIR, LYNDA ed. (1994): *Egyptomania* (Ottawa: National Gallery of Canada), p.187 (referenced hereafter as *Egyptomania Catalogue*)

> 'Accordingly, the ornaments that adorn the walls of this little canopus are, partly, taken from Egyptian scrolls of papyrus; those that embellish the ceiling, from the Egyptian mummy cases; and the prevailing colours of both, as well of the furniture are that pale yellow and that blueish green who hold so conspicuous a rank among the Egyptian pigments; here and there relieved by masses of black and gold.'[26]

In this example we therefore find an early interpretation of colour taken from Egyptian antiquity.

In 1802 Baron Dominique Vivant Denon (1747-1825) published *Voyage dans la Basse et la Haute Egypte pendant les campagnes du général Bonaparte*, thereby giving extensive publicity in Western Europe to the wonders of ancient Egyptian monuments. Between 1799 and 1801 Denon had travelled around Egypt with the French army, commanded by General Desaix as one of the first members of the Commission des Sciences et Arts d'Egypte and this had given him the opportunity to produce numerous detailed illustrations of contemporary Egyptian scenes which showed the magnificent monuments surviving still from ancient Egypt. Denon was not only an accomplished artist but also an eloquent diarist: *Voyage* appeared in two volumes, one devoted to his travel diaries and the other to his illustrations, and proved to be so popular that it was almost immediately translated into English and German. The interest which it generated in Britain may be gauged by the large number of Britons listed in the first subscription edition. Eventually it ran into forty editions and thousands of copies were printed. As Curl has pointed out[27] the *Voyage* was the first really reliable attempt to provide comprehensive and accurate descriptions of ancient Egyptian architecture.

In 1799 Napoleon charged the Commissions des Sciences et des Arts with the task of creating a systematic inventory of antiquities in Egypt. This body, which

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[25] HOPE, THOMAS (1807): *Household Furniture and Interior Decoration* (London: facsimile Alec Tiranti 1970), p.26 (referenced hereafter as HOPE: *Household Furniture*)
[26] HOPE: *Household Furniture*, p.27
[27] CURL, JAMES STEVENS (1994): *Egyptomania, The Egyptian Revival: a Recurring Theme in the History of Taste*, (Manchester: Manchester University Press), p.119 (referenced hereafter as CURL: *Egyptomania*)

consisted of approximately five hundred civilians, among them artists and scholars, accompanied the military expedition. The outcome of this colossal survey was the monumental *Description de l'Egypte*,[28] published in ten folio volumes and two volumes with engravings.[29] The *Description* therefore introduced a serious and more scientific approach to the study of ancient Egyptian monuments to complement the more romantic notion of Egypt which already existed in European artistic circles. Between them, Denon's *Voyage* and the *Description* became for the Egyptian Revival what Stuart and Revett's *Antiquities of Athens* was for the Greek Revival.[30]

In spite of the enormous amount of detailed information provided by these works none of the plates in *Voyage* were coloured and very few in *Description*. Two of the plates which were coloured were for the purpose of explaining the external paintwork at the Great Temple at Dendera, which remained in fair condition. It is apparent, however, that Jollois and Desvillier's rendering of the main facade of the temple[31] is a reconstruction of the colours from those parts which had remained in good condition, rather than a true likeness of the facade as they found it. Likewise, Le Pere's colour rendering of one of the gateway columns in green, gold, red brown and blue in Plate 12 is also a reconstruction, since much of the exterior colour had vanished and internally the colours were obscured by dust and soot.[32] *Voyage* and *Description* did much to ensure that the temple at Dendera became one of the most fashionable Egypt-inspired themes in nineteenth century art. A great number of works, public and private buildings

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[28] Commission des Sciences et Arts d'Egypte (1809-28): *Description de l'Egypte, ou, Recueil des observations et des recherches qui ont été faites en Egypte pendant l'expedition de l'armée francaise publié par les orders de sa Majesté l'empereur Napoléon le Grand* (Paris: Imprimerie Impériale) (referenced hereafter as *Description*)
[29] *Egyptomania Catalogue*, p.257.
[30] CURL: *Egyptomania*, p.120
[31] *Description*, Vol IV, pl. 9
[32] *Description*, Vol IV, pl.12.

were derived from the temple referring either to the overall building or to details such as that column which had been illustrated by Le Pere.[33]

By about 1820 techniques of colour lithography had improved and this enabled publications about the Egyptian antiquities to include more accurate information about the colours which were found to exist on the buildings. One such publication was *Antiquités de la Nubie* by Francois-Chrétien Gau (1790-1853), published in 1822.[34]

Between 1815 and 1819 the Italian explorer and archaeologist Giovanni Battista Belzoni (1778-1823), funded by the British Consul-General in Egypt, Henry Salt,[35] made a number of important new archaeological discoveries, the accounts of which appeared in the entertainingly written *Narrative of the Operations and Recent Discoveries within the Pyramids, Temples, Tombs and Excavations in Egypt and Nubia*, published in London by John Murray in 1821. Between 1818 and 1820 Belzoni produced forty-four plates, reproduced by means of colour lithography, to illustrate his researches and operations and in these great care was taken to reproduce the colours of the Egyptian ornament as faithfully as possible. In 1822 six new plates, also using colour lithography by C. Hullmandel, were added to the collection.

Between 1821 and 1822 these lithographs, together with replicas, drawings and many artefacts brought back from Egypt and Nubia by Belzoni were put on display in a remarkable exhibition mounted at the Egyptian Hall in Piccadilly, London. This hall, constructed in 1812 at 170-173 Piccadilly, was built to the designs of Peter Frederick Robinson (1776-1858) in a neo-Egyptian style. Originally it was known as the London Museum and had been erected to house the collection of curiosities of its owner,

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[33] *Egyptomania Catalogue*, p.259

[34] GAU, FRANCOIS-CHRÉTIEN (1822): *Antiquités de la Nubie, ou Monuments inédits des bords du Nil, situés entre la première et la second cataracte*, (Paris: Didot). Plates 21, 45, 46, 60 and 61 are printed in colour, as is one vignette (5).

[35] CURL: *Egyptomania*, p.123

William Bullock.[36] In 1819, prior to Belzoni's exhibition, the interior was decorated in the Egyptian style by John Buonarotti Papworth, with columns, winged disks and serpent friezes, all interpreted quite freely. Belzoni's exhibition, which included replicas of two of the chambers in the tomb of Seti I,[37] was a spectacular success and was attended by huge numbers of people.[38] It was so successful that the exhibition was also mounted in Paris and St Petersburg.

Until about 1820, European interest in Egypt was very largely antiquarian or ethnographical but at around this time the nature of interest changed, largely through a desire on the part of the Pasha of Egypt, Muhammed Ali, to turn Egypt into a modern state. On his initiative Western architects, engineers and technicians were invited to the country so they could provide advice about the ways in which Egypt's topographical and cultural resources could be exploited to the country's advantage. John Gardner Wilkinson, James Haliburton and Frederick Catherwood were examples of this new breed of explorer in Egypt. Gardner Wilkinson and Haliburton (brother of Decimus Burton) were invited by Muhammed Ali to make a geological survey of the Nile. Catherwood was employed as an engineer in the early 1830s to help repair mosques in Cairo. French architects and engineers also played an important part in providing technical advice to the Egyptian government. Pascal-Xavier Coste (1787-1879) was employed by Muhammed Ali to design and supervise the construction of various building projects, including the Mahmudiyyah Canal. The fact that these Western visitors had entered the country at the instigation of the Egyptian government meant they had greater freedom to move around, which gave them the opportunity to visit Islamic buildings of interest in Cairo. Pascal Coste in particular took advantage of his privileged status and was able to draw and measure many Islamic buildings in Cairo,

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[36] CURL: *Egyptomania*, p.156
[37] CURL: *Egyptomania*, p.156

including mosques, tombs and bath houses, which had previously been closed to European visitors. Coste's drawings, many of which were coloured, were published in the volume *Architecture Arabe ou Monuments du Kaire, mesuré et dessinés de 1818-1825.* It was not until 1837 that this volume was first published, the initial publication being without text; it was then published with text in 1839. In spite of this delay in publication Coste's coloured sketches had been in circulation well before that.

In 1827 the English explorer Robert Hay purchased the set of drawings now held by the Victoria and Albert Museum, London, from Coste but negotiations between himself and Coste to publish them, with Edward Lane acting as intermediary, broke down and Coste had his own set of drawings engraved and published in *Architecture Arabe.* Coste's set of drawings were later used as the basis for Hay's own publication *Illustrations of Cairo*, published in 1840. Many of Coste's drawings remained uncoloured but where colour was used great care was taken to recreate the appearance of the natural materials and the paintwork (bleached as it was by the sun) (Figs. I.4, I.5 and I.6). The important part which colour played in Cairene architecture is emphasised by passages in the text. In regard to the contrasting colours of materials for the gateway of the Mosque at Barkauk Coste remarks:

> 'Les Arabes ont employé les pierres de couleur dans leur appareil, particulièrement dans les sanctuaires et aux portes principales. La pierre noir est le basalte, la rouge est une pierre calcaire de la Haute Egypte. Les assises en calcaire blanc sont beaucoup plus tendres que les précédentes; elles proviennent des carrières de la montagne Mokattam, à quatre lieues au-dessus du Caire. Celles-ci sont alternativement peintes au rouges vermillion. Cette couleur se voit aussi sur les murs extérieurs des palais et des maisons particulières. On les peint ordinairement lorsque le maître a accompli le pèlerinage de la Mecque; voyage qu'un musulman doit faire au moins une fois pendant sa vie'.[39]

Similar colouring to that described above may be seen in his drawing of the gateway for the Mosque of Qayd-Bey (Fig. I.6).

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[38] *Egyptomania Catalogue*, p.275

For anyone with an antiquarian interest in either the use of colour by ancient Egyptian monuments or the part which colour played in Cairean Islamic architecture it was therefore possible by 1833 to consult well-researched publications or accurately rendered drawings on the subject.

[39] COSTE, PASCAL-XAVIER (1839): *Architecture Arabe ou Monuments du Kaire*, (Paris: Didot Frères), p.35 (referenced hereafter as COSTE)

The Survival of Medieval Polychromy

Before the Reformation church interiors in Britain were aglow with bright paintwork in primary colours. This took two principal forms: walls covered with murals depicting not only the lives of the saints and scenes from the scriptures, but also images reminding the congregation of the inevitability of death and of divine judgement and retribution.[40] Woodwork, particularly the carved elements, was covered with paint in bright contrasting hues so that the overall appearance was radiant with colour, in marked contrast to the bland appearance they have today.

The dissolution of the monasteries in 1539 was followed by a series of measures by the reformers of the church which led to many of the coloured murals and images being removed. In 1547, the year of King Henry VIII's death, several of the traditional ceremonies of the medieval church were abolished and an order made for the removal of all images 'from wall and window'. This resulted in many of the wall paintings being lime-washed over to obliterate them (which, ironically, served to preserve them), the destruction or defacement of religious statues and the smashing of windows with images, although actually many escaped destruction because of the high cost of replacing them with clear glass.[41] Much of the painted statuary and carved woodwork which managed to survive the Reformation purges later suffered damage at the hands of the Cromwellian Puritans. However, in certain remote areas, notably in East Anglia, examples of paintwork did remain intact, although dulled by the passage of time. Even at the beginning of the twenty-first century, churches like St Peter and St Paul, Salle, Norfolk (1421-61) and Holy Trinity, Blythburgh, Suffolk (1442-1462), evidence remains of much original fifteenth century paintwork.[42] (Fig. 1.7). Anyone with

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[40] FRIAR, STEPHEN (1996): *A Companion to the English Parish Church*, (Stroud, Glos.: Sutton), pp.373, 485 (referenced hereafter as FRIAR)

[41] FRIAR: p.373

[42] At St Peter & St Paul, Salle, paint survives on the nave roof, the chancel screen, the pulpit and the font cover. At Holy Trinity, Blythburgh, paint may be seen on the Angel Roof.

antiquarian interests in medieval religious polychromy would therefore have been able to study a number of good surviving examples at the end of the eighteenth and beginning of the nineteenth centuries.

Later in the eighteenth century many important medieval monuments were undergoing brutal alterations at the hands of 'restorers' like James Wyatt (1746-1813), actions which led him to be referred to as 'The Destroyer' by archaeologists of his time. These so-called 'restorations' were both unsympathetic and unscholarly, there being little or no attempt to faithfully reproduce authentic Gothic details or forms. There were some, however, who took a more scholarly interest in ensuring that, at a time when medieval monuments were being altered beyond recognition, accurate information about Gothic architecture was available for restoration work. Outstanding among these was John Carter (1748-1817) who was driven not just by purely antiquarian motives, but also by a genuine passion for Gothic architecture and a hatred of the neglect which it was undergoing. As Mordaunt Crook has shown in his paper to the Society of Antiquaries, *John Carter and the Mind of the Gothic Revival*:

> 'The neglect and destruction of this Gothic heritage moved Carter to righteous anger...Ruins had for him a double impact: at one level their fragments were testaments to a bygone grandeur; at another level their very neglect made them mute witnesses to modern philistinism, to the barbarity of the industrial process, and to omnipresent communal decay.'[43]

But what interest did Carter take in the restoration of medieval painted polychromy and how much concern did he show for its restoration? The answer seems to lie in Carter's preface to his book *Specimens of Ancient Sculpture and Painting*. There he sets out those subjects which are covered in the book by the term sculpture and those covered by painting:

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[43] CROOK, J. MORDAUNT (1995): *John Carter and the Mind of the Gothic Revival* (London: Society of Antiquaries), p.32

> 'Under the head of Painting are comprehended single figures, historical groups, or Portraits on glass, walls or board: together with enamelling on tiles or metal.'[44]

In the absence of any description of medieval painted polychromy it appears that Carter's interests lay principally in figurative and narrative painting. Carter's importance for later developments in the revival of Gothic painted ornament lies in paving the way for a much more scholarly approach to the subject of restoration. The legacy of this attitude of mind may be found in the work of L.N. Cottingham, to be discussed in Chapter IV.

By the first quarter of the nineteenth century the attitude towards reproducing interiors of other styles or ages had become much more scientific and with this desire for authenticity came a demand for publications which provided accurate information for the benefit of designers. One such work was Nathaniel Whittock's *The Decorative Painters' and Glaziers' Guide* (1827). In order to achieve an authentic Gothic interior Whittock indicated the use of dark oak heraldic devices in bright colours. Such armorials were much in evidence at Eaton Hall, Cheshire (1824) and James Wyatt's Fonthill Abbey (1823).[45]

Scholarly evidence for correctly blazoned heraldic devices in both secular and ecclesiastical buildings was available in Thomas Willement's *Regal Heraldry. The Armorial Insignia of the Kings and Queens of England from coeval authorities* (1821).[46]

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[44] CARTER, JOHN (1780-6 and 1787-94; new edition 1838): *Specimens of Ancient Sculpture and Painting* (London: Henry Bohn), Preface

[45] BRISTOW: *Architectural Colour*, p.172

[46] WAINWRIGHT, CLIVE (1990): 'Polychromatic Decoration as Applied to Buildings of the Nineteenth Century' in ALDRICH, MEGAN ed.: *The Graces: Royal Decorators* (Brighton: John Murray), p.159 (referenced hereafter as WAINWRIGHT: 'Polychromatic Decoration')

The Impact of Colour Theory

Publications such as these dealt mainly with the realm of decorative house painting rather than with architectural polychromy, which is the subject of this study, but they do illustrate a growing interest in colour theory which was taking place during the early part of the nineteenth century.

In *Architectural Colour in British Interiors*, Bristow explains how Goethe's work on colour theory was to produce its own effect on decorative painting but in regard to architectural polychromy we shall see that the influence which came from Goethe's theories followed quite a different route.

The pioneering work by Sir Isaac Newton into the relationship between light and colours and his definition of a scale of prismatic colours in his work *Opticks* which appeared in 1704, affected the study of colour in art until well into the nineteenth century. In putting the study of light and colour on an objective, quantitative basis, Newton was, however, primarily concerned with the scientific implications of the subject rather than the artistic or the physiological. From the beginning of the nineteenth century, however, artists and philosophers were increasingly preoccupied with the way the eye perceived colour and the effect which it had on the psyche.

Goethe's early interest in colour seems to have been stimulated by his experiences of art and conversations with painters during his Grand Tour of the 1780s and it led him to make a particular study of Newton's theories. As a result, he carried out a number of experiments of his own by which he could test Newton's conclusions and form his own opinions. Where Goethe's approach chiefly differed from Newton's was in his emphasis on the subjective aspects of colour phenomena, the way the human eye responded to the blending or contrast of hues, rather than the chromatic constituents of the spectrum themselves. In due course this led him to conceive the idea that the spectral hues of the rainbow could provide a guide to the ordering of colours in

architectural design. His work *Zur Farbenlehre...Nebst einem Hefte mit sechzehn Kupfertafeln* published in Tübingen in 1810 was translated into English by the elder Charles Eastlake (1793-1865) but it was not until 1840 that it was published. In practice, though, it seems that Goethe's ideas were already circulating in English art circles in the early nineteenth century.[47]

No attempt will be made here to do more than explain the essence of Goethe's theories since they are by their very nature complex and have in any case been covered in detail by Rupprecht Matthaei's *Goethe's Colour Theory* (1971)[48] and John Gage's *Colour and Culture* (1993)[49]. There are aspects of *Zur Farbenlehre*, however, which throw some light on the change in perception of colour which was taking place between the early 1800s and the period covered by this study. While physicists found little in Goethe's theories about colour which threw new light on the subject, what he did do was to make an important contribution towards the developing science of the physiology of perception. His research emphasised the polar structure (the concern with opposites) of both the formation of colours from light and dark and their reception by the eye. One aspect of this which was of great importance for decorators and artists alike was the phenomenon of the 'after-image'. Two passages in *Zur Farbenlehre* may be quoted to illustrate what is meant by this term:

> 'Let a small piece of bright-coloured paper or silk stuff be held before a moderately lighted white surface; let the observer look steadfastly on the small coloured object, and let it be taken away after a time while his eyes remain unmoved; the spectrum[50] of another colour will then be visible on the white plane. The coloured paper may also be left in its place while the eye is directed to another part of the white plane; the same spectrum will be visible there too, for it arises from an image which now belongs to the eye'.[51]

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[47] BRISTOW: *Architectural Colour*, p.189

[48] MATTHAEI, RUPPRECHT (ed.) (1971): *Goethe's Colour Theory*, translated from the German edition by Herb Aach (London: Studio Vista) (referenced hereafter as MATTHAEI)

[49] GAGE: pp.201-3

[50] The translator, Herb Aach, points out that in this context 'spectrum' is intended here as 'face manifestation'.

[51] MATTHAEI: paragraph 49, p.83

Having remarked on the phenomenon of the after-image Goethe then showed that it was possible to predict the colours which would be discernible to the eye:

> 'In order at once to see what colour will be evoked by this contrast, the chromatic circle may be referred to. The colours are here arranged in a general way according to the natural order, and the arrangement will be found to be directly applicable in the present case; for the colours diametrically opposed to each other in this diagram are those which reciprocally evoke each other in the eye. Thus, yellow demands purple; orange, blue; red, green; and vice versa: thus again all intermediate gradations reciprocally evoke each other; the simpler colour demanding the compound and vice versa'.[52]

In his book *The Laws of Harmonious Colouring adapted to House Painting*, published in 1828, David Ramsay Hay stated his own conviction that the key to harmonious combination lay in the laws of optics and the phenomena of after-image and polarity could be applied when determining a colour scheme. He observed that when opposite colours were confronted directly with each other it produced an unsatisfactory result to the eye and it was necessary to introduce a third harmonising colour to soften the transition. These harmonising colours were produced by diluting the original with the colour 'in the next weakest degree of lightness'.[53] Hay was to develop these ideas so that by the 1840s he was 'attempting to give numerical values to colour, bringing in the tertiaries, and suggesting the need not merely for a balance of colour, but also for a balance of brightness and tone'.[54]

Even if these applications of Goethe's ideas showed a much more systematic and scientific approach to the selection of colours for house painting, they were essentially to do with the purely decorative treatment of interiors. Architectural polychromy, as it was developed by Owen Jones from the 1840s onwards, had its roots in Goethe's theories but, unlike Hay, it had its origins in optical colour mixing developed for

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[52] MATTHAEI: paragraph 50, p.83
[53] BRISTOW: *Architectural Colour*, p.191
[54] BRISTOW: *Architectural Colour*, p.191

illustrative painting and the dyeing of fabrics. Jones's development of these ideas will be developed and discussed in Chapter 2.

A second aspect of Goethe's interest in colour theory concerns the association between human nature and certain types of colour and he pointed out that 'in dress we associate the character of the colour with the character of the person'.[55] Once we accepted that colours were indicative of the human spirit a number of examples could be given which confirmed this idea. Whereas primitive men and children had a great fondness for colours in their 'utmost brightness, and especially for yellow-red',[56] people of refinement have a disinclination to colours.[57] The link between colour and attitudes of mind could even be shown to reflect contrasts in temperament between the peoples of different nations:

> 'Colours, as connected with particular frames of mind, are again a consequence of peculiar character and circumstances. Lively nations, the French for instance, love intense colours, especially on the active; sedate nations, like the English and Germans, wear straw-coloured or leather-coloured yellow accompanied with dark blue'.[58]

But if Goethe showed that colour could unconsciously reveal the frame of mind of a person he also demonstrated it could be used consciously to create character or mood, once its language was understood.

> 'Every colour produces a distinct impression on the mind, and thus addresses at once the eye and feelings. Hence it follows that colour may be employed for certain sensual, moral and aesthetic ends'.[59]

Goethe endeavoured to explain his ideas on the links between colour and temperament, and colour and 'the powers of the soul' graphically and produced, in collaboration with Friedrich Schiller, two 'rose' diagrams and a tetrahedron which

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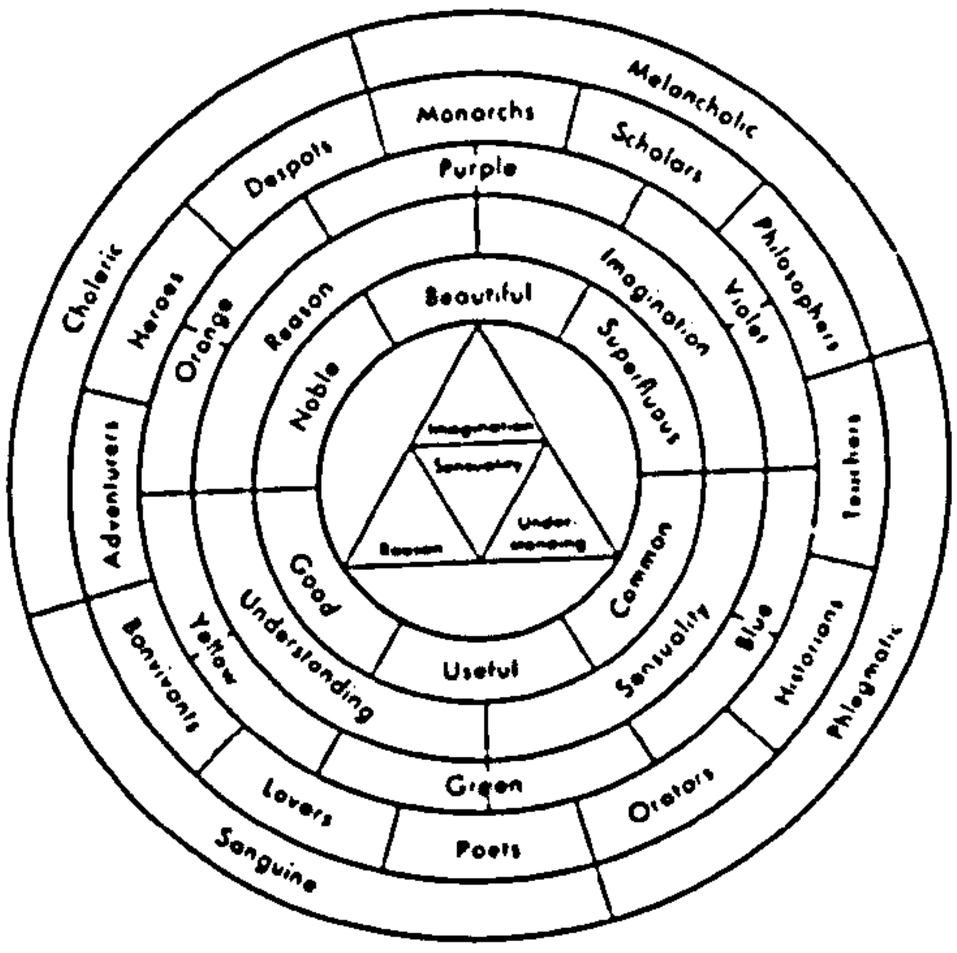
[55] MATTHAEI: paragraph 839, p.180
[56] MATTHAEI: paragraph 835, p.178
[57] MATTHAEI: paragraph 841, p.180
[58] MATTHAEI: paragraph 838, pp.179-80
[59] MATTHAEI: paragraph 915, p.189

summarised them. In an effort to simplify these diagrams and show how they interrelate Matthaei has produced a single diagram which embodies all three.

Ill. 133
Diagram of the symbolic significance of the colors of the circle.



This way of looking at the connection between colour and the mind was to be taken much further during the nineteenth century by scientists such as Ogden Rood and Hermann von Helmholtz but it was Goethe's investigation of the subject which made some mid-nineteenth architects realise that colour could be used consciously to condition the mood of a room. In practice the application of such ideas was limited but the architect William White was one of those who took an interest in the subject and used them to produce theories of his own.

In regard to painting the English expert on painters' pigments George Field had produced two publications which explained how artists' colours could be contrasted on an optical mixture basis so as to create the impression of sunlight. These two publications (*Chromatics, or an Essay on the Analogy and Harmony of Colours*, 1817 and *Chromotography*, 1835) were of significance to J.M.W. Turner who made use of Field's techniques to produce those scenes bathed in golden light, for which he was

famous. Turner had also drawn on Field's advice as to the way colours could be chosen to enhance perspective in painting:

> 'The perspective of colours depends upon their powers to reflect the elements of light, powers which are by no means uniform. Accordingly, blue is lost in the distance before red, and yellow is seen at a point at which red would disappear; yet blue preserves its hue better than yellow, because colours are cooled in the distance. In this respect, the compound colours partake of the powers of their components, in obedience to a general rule, by which local colours closely connected with black are first lost in the distance, and those nearly related to white disappear last. The same may be said of local light and shade, the latter of which is totally lost at great distances; and it is for this reason the shadowed side of the moon is not generally seen. These powers of colour are, however, varied by mist, air, altitude and mixture which produce evanescence; and by contrast, which preserves the force of colours by distinguishing them. Colours do not decline in force so much by height as by horizontal distance, because the upper atmosphere is less dense and clouded with vapour: and hence it is that mountains of great elevation appear much nearer than they really are.'[60]

Field was also aware that paints could be blended so as to produce luminous effects and produced advice on the way the primary colours could be used to achieve this.

> 'The power of colours in contrasting each other agrees with their correlative powers of light and shade, and is to be distinguished form their power individually on the eye, which is one of light alone: thus although orange and blue are equal powers as respects each other - as respects the eye they are totally different and opposed: for orange is a luminous colour, and acts powerfully in irritating, while blue is a shadowy colour, and acts much less powerfully, or contrarily in soothing that organ - it is the same in various degrees with other colours.'[61]

Twenty years later Field's theories on optical colour mixture were taken a stage further by the Frenchman, Michel Chevreul. As the Director of Dyes of the Gobelin tapestry works in Paris, Chevreul had been responsible for dealing with complaints about the quality of certain colours being produced by the dye department. His investigations proved that these complaints were justified as regards the lack of stability of the blues and light violets, together with the grey and brown shades, but the same did

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[60] FIELD, GEORGE (1835): *Chromatography* (London: Charles Tilt), pp.30-1 (referenced hereafter as FIELD)
[61] FIELD: pp.30-1

not hold true in the case of complaints about the lack of strength of the blacks intended to produce shadows in blue and purple draperies; for after having obtained samples of woollens dyed black in the most famous establishments of France and Europe, it was acknowledged that they were in no way superior to those of the Gobelin shops.

It was then that Chevreul found that the supposed lack of strength in the blacks had to do with the phenomenon of colour contrast and depended on the colour with which it was juxtaposed. This observation was the starting point for studies which led to Chevreul setting down the rules for *De la loi du contraste simultané des couleurs*. For several months experiments were carried out on people's perceptions of colours; scholars and artists, who were qualified to judge colours and evaluate the smallest differences, were engaged to provide their observations on a series of repeated simple experiments. The findings[62] were then set down as facts and added to science.

The essence of Chevreul's observations were summed up in his resulting thesis when he stated:

> 'If we look simultaneously upon two stripes of different tones of the same colour, or upon two stripes of the same tone of different colours placed side by side, if the stripes are not too wide, the eye perceives certain modifications which in the first place influence the intensity of colour and in the second, the optical composition of the two juxtaposed colours respectively. Now as these modifications make the stripes appear different from what they really are, I give to them the name of simultaneous contrast of colours: and I call *contrast of tone* the modification of intensity of colour, and the *contrast of colour* that which affects the optical composition of each juxtaposed colour.'[63]

Put simply we can say therefore that the basic law formulated by Chevreul meant that colours in juxtaposition are modified in time and intensity so as to increase their contrast.[64]

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[62] CHEVREUL, MICHEL EUGÈNE (1839): *De la loi contraste simultané des couleurs* (Paris), translated by C. Martel (1854) under the title *The Principles of Harmony and Contrast of Colour and their Application to the* Arts (London: Longman, Brown, Green & Longman), p.21 (referenced hereafter as CHEVREUL)

[63] CHEVREUL: p.37

[64] KEULS, EVA (1975): 'Skiagraphica Once Again', *American Journal of Archaeology*, Vol. 79.I, (1 January), p.3

Chevreul discovered that bright and pure pigmentary colours, when blended on the painter's palette or in the dyer's crucible, fail to produce their original brilliancy in the mixture. If, however, these same colours are not mixed, but applied in pure form in small areas (as they naturally are in weaving) they are blended on the retina of the eye and the resulting shade is of a far greater luminosity. To this process he gave the name 'mixture of colours' (as opposed to what he called 'contrast of colours' in which the eye perceives colours separately). The term 'mixture of colours' would today be known as optical mixture or optical colour fusion. What Chevreul did not discover, most probably because of the limitations of his equipment, was that optical colour mixture does not follow the laws governing pigmentary blends, but those governing the mixtures of coloured lights.

The different results produced by the blending of colours according to whether by the subtractive or additive colour systems are best illustrated by the use of two diagrams:

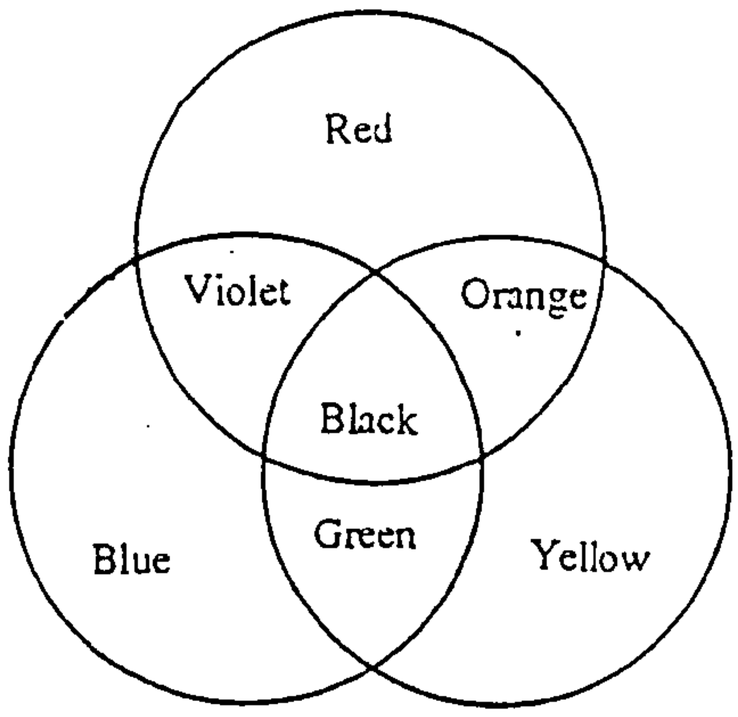

Diagram 1: Subtractive Colour System

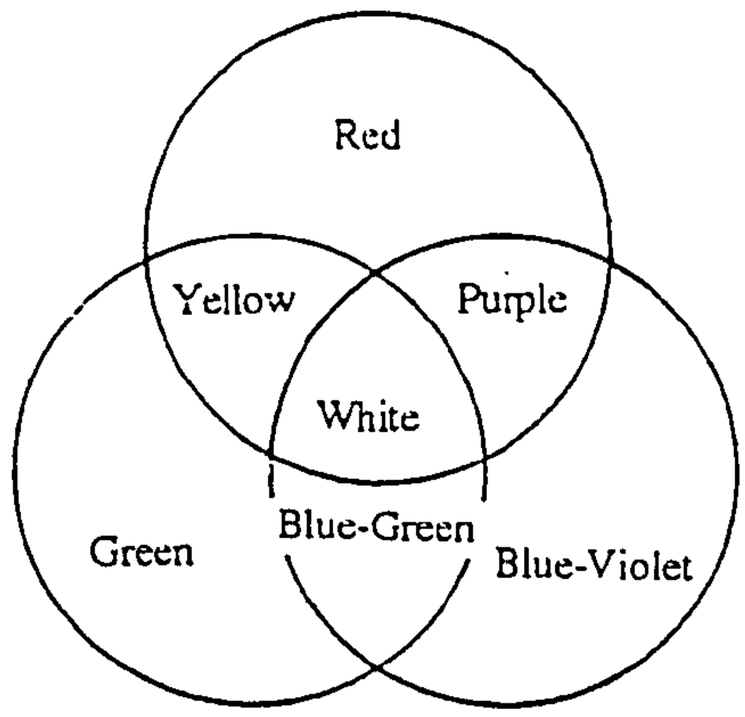

Diagram 2: Additive Colour System

Mixtures of paints and dyes follow the so-called subtractive colour system of reflected light, in which any blends produce black. The primary colours of the subtractive system are red, blue and yellow (Diagram 1). The blending of coloured lights is governed by the additive colour systems in which mixtures result in a gain of luminosity and complementaries or equivalent combinations of colours produce white light (Diagram 2). The primary colours of the additive system are red, green and violet-blue. Optical fusions in painting follow the additive colour principles, even though generated by painted surfaces. In theory the optical fusion of complementaries should produce white but in practice it produces shades of grey since synthetic colours are never prismatically pure.[65] Field's and Chevreul's colour theories were to be of considerable interest for Jones as he sought to understand the principles which lay behind the extraordinary repose and charm of the Alhambra.

Conclusion

As this chapter has attempted to show, the circumstances in which colour became a topic of such importance for architecture during the years 1840-70 are diverse and complex. The section discussing 'Winckelmann and the Cult of Whiteness' really explores two reasons for the development of colour interest. The discovery that the ancient Greeks had used polychromy on their buildings and sculpture shattered long-held beliefs that bright colours were associated with unsophisticated and primitive peoples. Since ancient Greek culture was held in such high esteem at the time and regarded as a pinnacle in the artistic development of mankind the existence of ancient polychromy seriously undermined the position of the arts establishment in Britain. There were many in Britain who remained unconvinced about the Greeks' use of colour until the middle of the century; that is, until the Society of Dilettanti published Francis Penrose's *Investigation of the Principles of Athenian Architecture* in 1851. This convinced the committee which had been appointed to consider whether paint had been applied to the Elgin Marbles, that ancient Greek buildings had been ornamented with applied colour as a matter of course. The polychrome decoration of the British Museum Entrance Hall was an acknowledgement of this realisation.

Archaeological discovery and investigation in Greece, Asia Minor, Egypt and the Near East, and particularly the discovery that the Greeks had used colour on their buildings and sculpture, seems to have encouraged a spirit of co-operation between the artists, architects and archaeologists of the various European nations most involved in the work, notably France, Germany and Britain. The extent of this international collaboration has not always been fully appreciated. For instance, it is not well known that in 1835 a complete set of casts of the Parthenon sculptures was made for the Louvre by the British Museum following a request of the French government and that this was

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[65] KEULS: pp.3-4

paid for by the Treasury.[66] The extent of this cooperation is also underlined by Hittorff's attendance at one of the committee meetings held to determine whether the Elgin Marbles had been painted.[67]

It is evident that British architects were well aware of the work of Hittorff in France and Klenze in Bavaria in introducing historic colour into neo-classical design, but chose not to follow their lead for a number of reasons, these being principally:

- insufficient archaeological evidence
- doubts about the notion of reviving an archaeological correct neo-Greek architecture
- the unsuitability of the British climate for external painted colour
- ignorance of theoretical discourse from Quatremère especially, that informed French and German polychromy.

Exploration of Egypt early in the nineteenth century by archaeologists and scholars led to publication of detailed surveys of the monuments, such as Denon's *Voyage* and the *Description.* These surveys had discovered that many of the ancient Egyptian monuments were in a good state of preservation as a result of the dry climate and because many buildings and tombs had been buried in the sands. One of the benefits of this was that many of the paint colours remained in their original condition, unfaded and vibrant. This meant that artists and architects had no need to guess at the original colour schemes and could record them in a way not possible with the Greek buildings of antiquity.

At first the published works contained few reproductions of the colours since colour printing was not advanced and was expensive. Rapid developments in colour lithography took place, however, in the first quarter of the century so that by the time

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[66] British Museum, Archives. See Index to Minutes Vol. III, June 1833 to December 1847, C3612 to C7409. See also letters on this subject dated 16 October 1835, 20 October 1835 and 11 November 1835.
[67] British Museum. Archives, Report of the committee appointed to examine the Elgin Marbles. Meeting of 1 June 1837, pp. 104-108.

Hullmandel produced colour lithographs for Belzoni's narrative in 1820 and for the exhibition in 1821 the standard of colour rendering was much more authentic. This meant that from about 1825 onwards the archaeologist or architect proposing to visit Egypt could gain access to reliable information about antique colour on the monuments. For some, however, the interest initially reserved for ancient Egyptian architecture gradually gave way to an appreciation of the ornamentation, together with the colouring of buildings which had been developed since the Arab invasion. This developing interest in Islamic buildings and ornament was to be captured by Pascal Coste in the drawings which he prepared between 1818 and 1825 and were later published in 1837. Owen Jones is therefore representative of those Western archaeologists and architects of the period who were drawn to Egypt in that spirit of antiquarianism which was so strong at the time. Where Jones was unusual, however, was that it was the surviving colour on these buildings which was of particular interest to him and which he wished to record and reconstruct.

The antiquarian interest in Gothic architecture which developed during the late eighteenth and early nineteenth centuries, and is characterised by John Carter, does not appear to have extended to a corresponding interest in medieval painted polychromy. In spite of the large amount of surviving paintwork in English medieval churches there seems to have been no desire to record it or reconstruct it in the way proposed for sculpture or narrative painting. The development of interest in medieval painted colour and its consequences is the subject of Chapter IV.

During a period in which there was increasing awareness of the important part which colour had played in the architecture of ancient civilisations there developed a whole new way of looking at colour, prompted to a large extent by Goethe's theories at the beginning of the century. While in themselves not very scientific they asked questions which led to much scientific investigation, particularly in the way the human

eye reacted to colour and the associations which colour had for the mind. By the time *Zur Farbenlehre* had been published in English in 1840 the theories of Field and Chevreul, concerning the effect which colours could have on perception, had been advanced. These showed that, once understood, these theories on colour could be used creatively in painting and ornament. This was to mark a pronounced shift away from the attitude at the beginning of the century that colour was largely a matter of taste. This way of looking at colour in a more scientific way was to pave the way for Owen Jones's own theoretical approach to architectural colour and the theories of Field and Chevreul were to be adopted by him in his own 'General Principles'.

Fig. I.1 C.R.Cockerell: Plate IX from *The Temples of Jupiter Panhellenius at Aegina etc.* (1860)

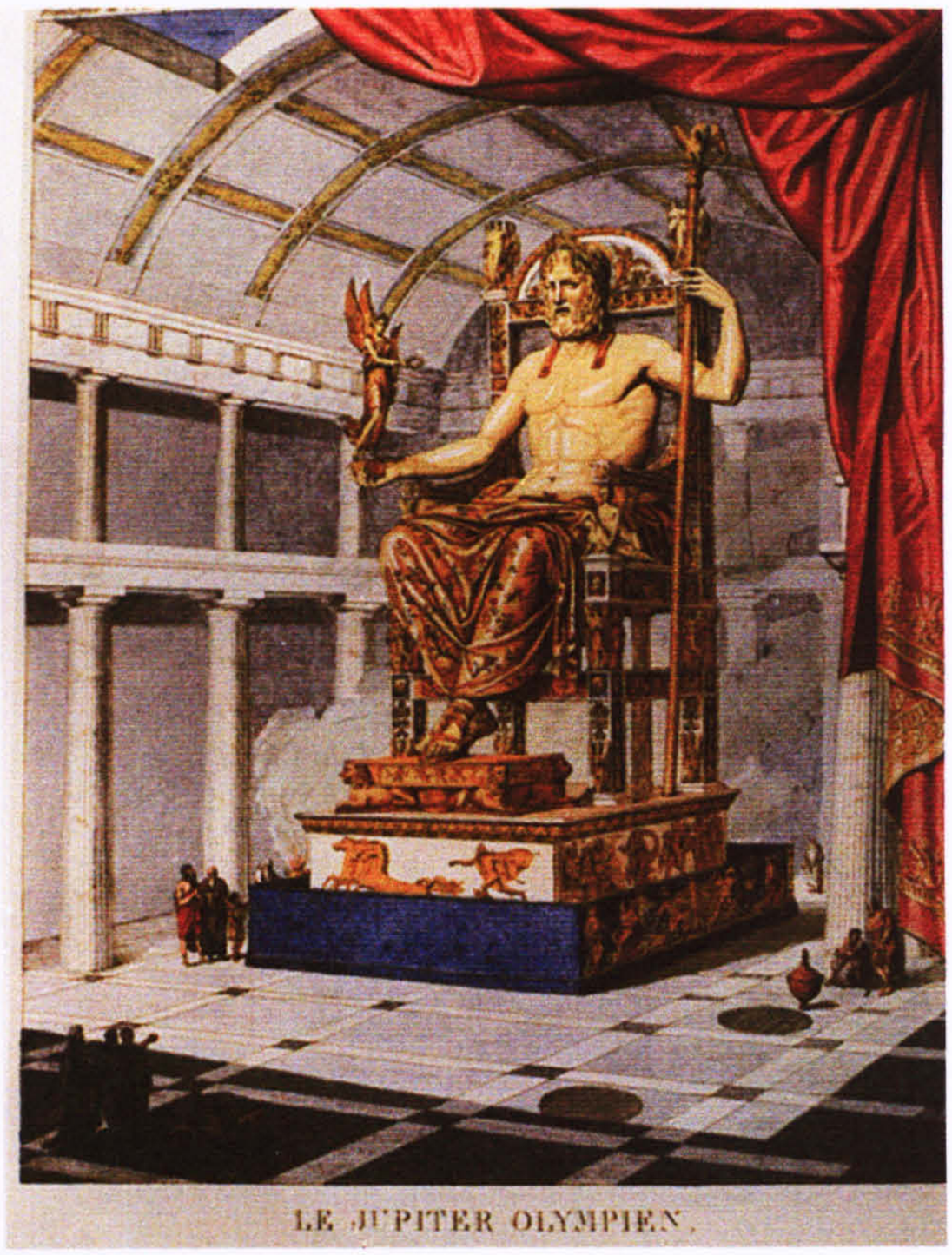

Fig. I.2 Frontispiece from Quatremère de Quincey's *Le Jupiter Olympien,* Paris 1814. (from *The Colour of Sculpture*)

Fig. I.3 Illustration from Jakob Ignaz Hittorff's *Restitution du Temple d'Empédocle à Sélinunte.* Paris 1851 (from *The Colour of Sculpture*)

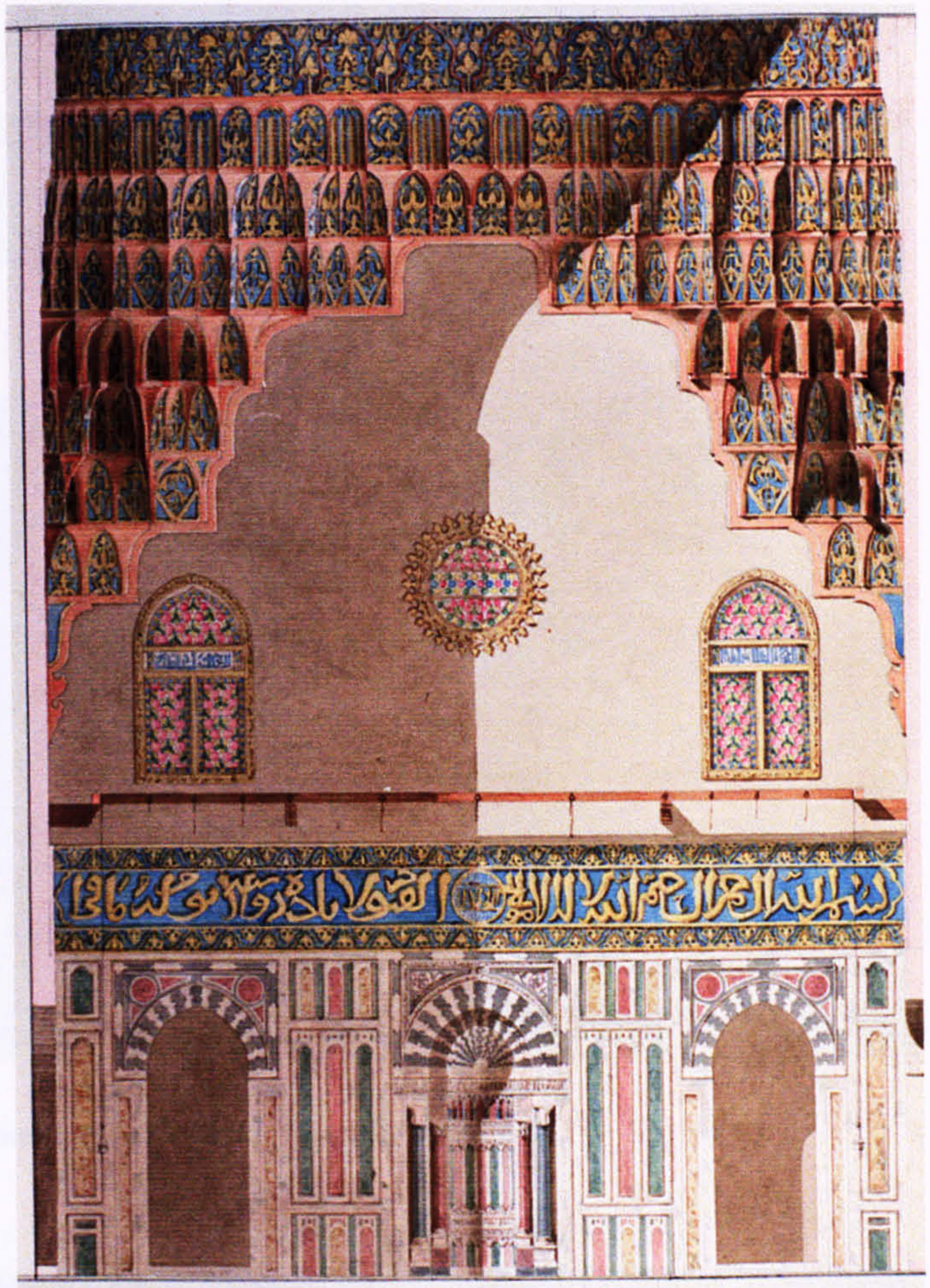

Fig. I.4 Pascal Coste: drawing of the tomb of Sultan Hasan, Cairo

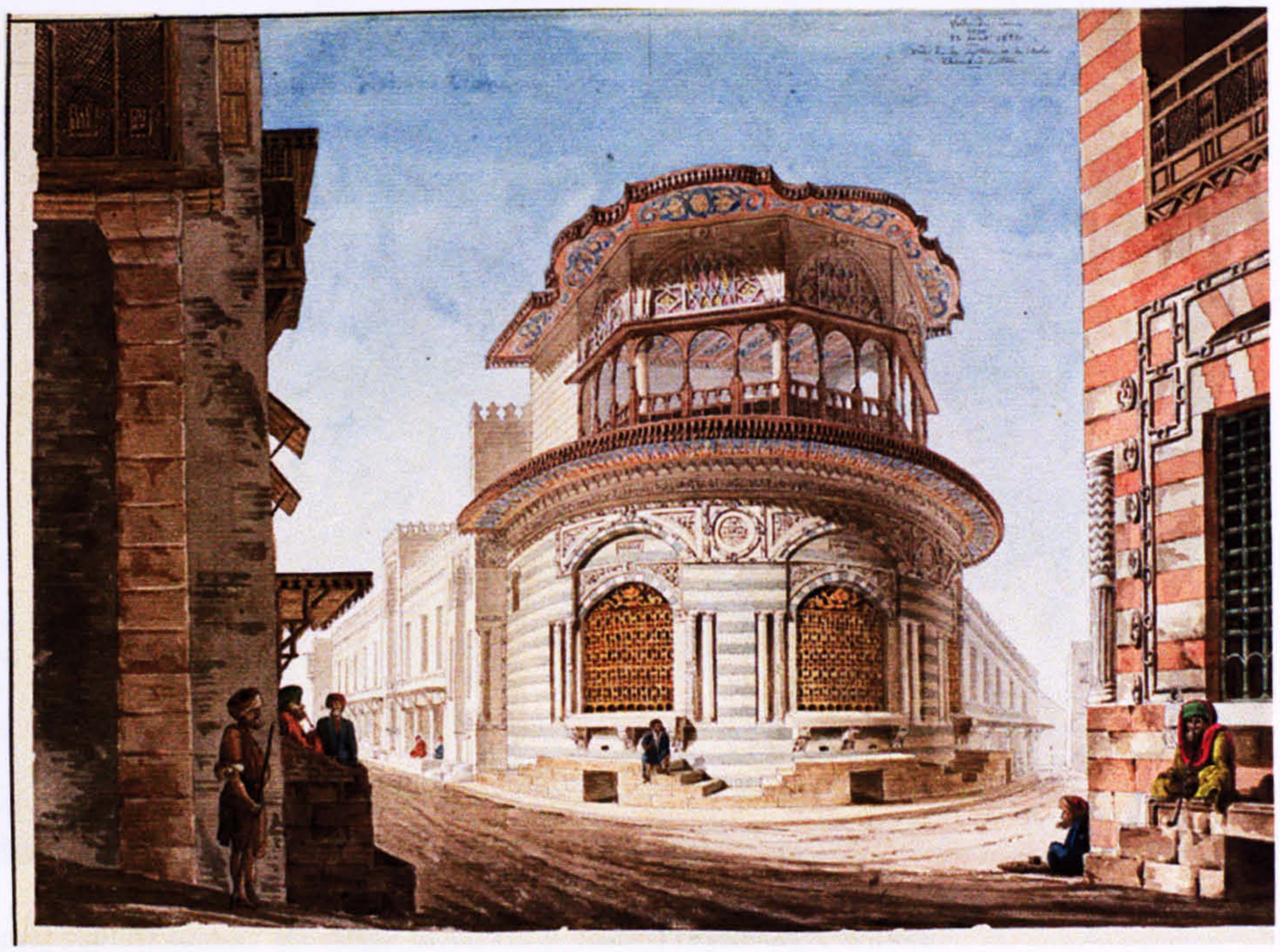

Fig. I.5 Pascal Coste: drawing of the bath house of Derviches, Cairo

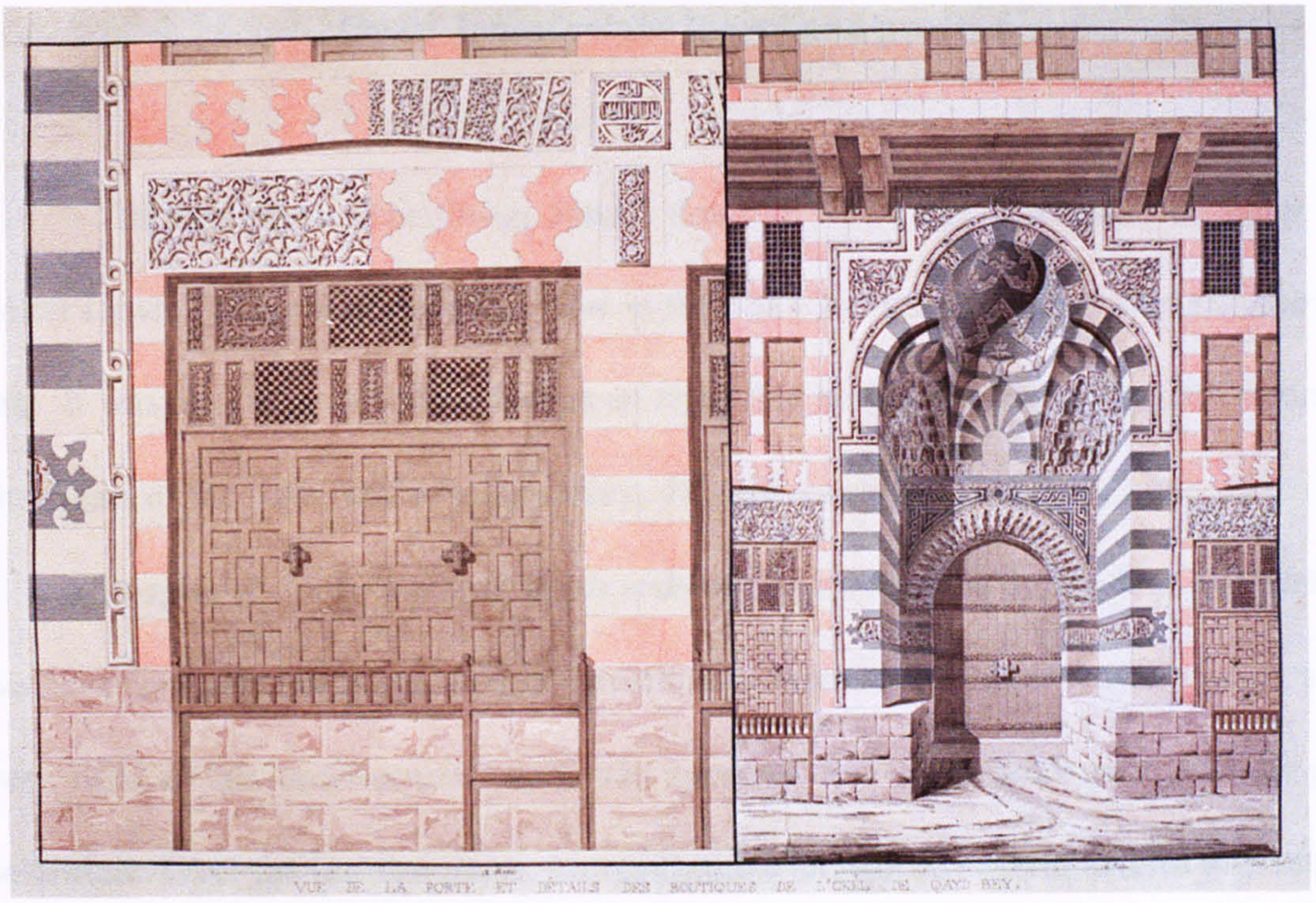

Fig. I.6 Pascal Coste: drawing of gateway to the mosque of Qayd-Bey, Cairo

Fig. I.7 Medieval painted colour: the Angel Roof, Holy Trinity, Blythburgh, Suffolk

CHAPTER II

Owen Jones: colour theory and practice

Thirteen years after Owen Jones' death in 1874, the influential designer and writer Lewis F. Day expressed the view in the 1887 Jubilee number of *The Art Journal*[1] that 'it was as a theorist rather than as an artist that he [Jones] made his mark upon the first years of the latter half of this century. His influence was immense.'

In spite of Jones's output as an architect and decorator during his own lifetime we have for many years not been in a position to assess the truth of Day's remark, since very little of his architectural work has survived and what there was, was in poor condition. Over the last few years, however, there have been several careful restorations of his surviving work and we are now better placed to form an opinion as to his success as an artist. This chapter therefore concentrates on what Lewis F. Day perceived as Jones's great achievement, the theories which he developed in relation to architectural colour, but it also looks at how far his few surviving works relate to those theories.

Jones commenced his training as an architect at the age of sixteen in 1825 when he was apprenticed to the London architect Lewis Vulliamy (1791-1871). Although the Greek Revival remained in vogue Vulliamy was by no means only committed to that style and he proved to be equally adept at producing both classical and Gothic designs.[2] As a result of experience in this firm of architects Jones became proficient at an early stage in his career at producing designs in a variety of styles to suit the demands of the project. During the time that Jones was working for Vulliamy he was given the opportunity to attend lectures and take advantage of library privileges at the Royal Academy, thereby bringing him into contact with leading figures in the architectural

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[1] DAY, LEWIS F. (1887):'Victorian Progress on Applied Design', in *The Art Journal* Vol.50 p.187 (referenced hereafter as DAY)

establishment such as Sir John Soane, C.R. Cockerell and Charles Barry. Exposure to these luminaries must have made Jones aware of the growing opposition to the Greek Revival style but this does not seem to have had the effect of inclining him towards the Gothic Revival camp.

It seems that Jones was particularly fortunate in his choice of employer for not only did he receive encouragement to study at the Royal Academy, he also seems to have been infected by Vulliamy's enthusiasm for foreign travel. While himself a student at the Royal Academy Vulliamy had been awarded a travelling scholarship (in 1818)[3] which enabled him to travel in Italy, Greece and Asia Minor for a period of four years. Although Middle East destinations, as part of the Grand Tour, were becoming more popular at the beginning of the nineteenth century, Vulliamy had shown unusual enterprise in travelling beyond the countries more usually visited and was one of the earlier British architects to visit the region.

After a short trip to Paris, Milan, Venice and Rome in 1830 Jones made preparations for a much more extended period of travel which was to lead him eventually to the Middle East. As Carol Flores has pointed out[4] it was not by chance or impulse that Jones made up his mind to travel to Turkey, Egypt and Spain, as well as his other European destinations. While his interest may have been triggered initially by the illustrations and accounts provided by Vulliamy, there were other factors which are likely to have helped influence him. A review of the issues of the *Gentleman's Magazine* during 1829 and 1830 shows that there was growing interest in the region revealed by the mass of articles, poetry and references to Egypt, Persia and Constantinople which had begun to appear.[5] By virtue of being a student at the Royal

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[2] FLORES: pp. 11-12. .
[3] COLVIN, HOWARD (1995): *A Biographical Dictionary of British Architects 1600-1840* (New Haven: Yale University Press) pp. 1011-12 (referenced hereafter as COLVIN)
[4] FLORES: p.14
[5] FLORES: pp.13-14.

Academy Jones would have known of the travels of Charles Barry in Egypt, Palestine and Syria in 1818 in the company of David Baillie and of J.J. Scoles to Syria and Egypt as a companion of Joseph Bonomi, junior (and at another stage with Henry Parke and Frederick Catherwood).[6] Jones was also well acquainted with Joseph Bonomi, the noted Egyptologist. It is not recorded how Jones and Bonomi first met, but the fact that they knew each other in London is confirmed by a letter sent by Charles Eastlake to Bonomi in 1826.

> 'I have in obedience with orders sent off all the articles in my possession to Mr Owen Jones, if you should find that there is anything not belonging to you will you please let me know.'[7]

In 1831 at the end of his apprenticeship Jones set off for a period of travel in the Mediterranean and Far East which was to last three years. At an early stage in his travels, when he reached Athens, he became friendly with Jules Goury, a young French architectural student. For a period before he encountered Jones, Goury had been visiting Greek sites of antiquity with Gottfried Semper and had therefore played an active part in the discoveries of ancient Greek polychromy which were being made at that time. An interest in colour was something which Goury and Jones shared. Jones's fascination with the subject had developed at an early stage in the tour and *The Builder* recorded in his obituary:

> 'We have heard him speak of the effect produced upon him by the first view he had of Italy from the Great St Bernard. His eye for colour was opening, and in walking, afterwards, over Sicily, his taste was more and more in that direction.'[8]

It appears that within a short period of meeting, Jones and Goury resolved on travelling in Egypt with a view to making a study of ancient Egyptian buildings. As Michael Darby has observed, the pair were led into their study because of the fact that the monuments retained considerable evidence of having been originally covered with

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[6] COLVIN: pp. 101, 734 and 854

paint. This set them apart from their colleagues who were more interested in their form, structure and colossal size.[9]

Goury was no doubt already familiar with *Description de l'Égypte*, Denon's *Voyage dans la Basse et la Haute Egypte* and other contemporary works by his fellow countrymen, such as the travel diaries of Joseph Huyot, first published in 1818. The sojourn in Egypt, and Cairo in particular, made Jones and Goury gradually aware of the qualities of Islamic architecture. Inspired by what they saw there they went north to Turkey, ending up in Istanbul, and seized every opportunity to make careful studies of those mosques and tombs which best exemplified the finer characteristics of Islamic ornament. Amongst those studied and drawn in detail were the Mihrimah Djami, Istanbul (Fig. II.1)[10] and the Tomb of Soliman I (Fig. II.2).[11] The interest in Islamic architecture and ornament developed in Egypt and increased by the visit to Istanbul, led them to travel to Moorish Spain in 1834, principally with the object of carrying out a study of the Alhambra at Granada. At this time the building lay in a state of neglect and much of the original paintwork had been whitewashed or undergone repainting at the hands of the Spanish Christian rulers after the Moors had been driven out. For Jones and Goury the building was an inspiration, revealing as the study proceeded, an unsuspected level of sophistication in its design.

In August 1834, however, Jules Goury fell victim to cholera and died so that Jones was left to continue the project on his own. During the time they had been working together they had executed hundreds of drawings and Jones made up his mind to publish the results of their survey as a tribute to Goury once he had returned to

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[7] DARBY: 'Eastern Ideal', p.11. From a letter formerly in the possession of Mrs L. de Cosson, a relative of Bonomi, now deceased.
[8] *Builder, The* (1874): Vol. XXXII, (9 May), pp. 383-5
[9] DARBY: 'Eastern Ideal', p.12
[10] Prints and Drawings Department of The Victoria and Albert Museum, Pressmark A.202 Acc. No. 8276B
[11] P&D Dept., V&A, Pressmark A.202 Acc. No. 8271F

England. As he approached the task of preparing a publication Jones soon became aware he must do more than just produce a series of perspective illustrations if he was to do justice to the genius of the Moorish builders. He therefore resolved to produce a detailed series of scale drawings of the building which would not only show all the ornament but would also reproduce the colouring as accurately as possible. In the spring of 1837 Jones returned to the Alhambra and carried out a further survey during which he obtained a series of plaster casts, took impressions of the low relief ornament, and carefully recorded the colours which had been used. Supplied with this additional information Jones proceeded to look for a firm of printers who would be able to meet his requirements for high quality colour reproduction but he was unsuccessful in this search. Realising that he would be unable to achieve the standards he desired he decided to take charge of the printing process himself and with the help of the publishers Day and Haghe he set up a press using the comparatively new printing technique known as chromolithography. This led to publication of a first volume with text *Plans, Elevations, Sections and Details of the Alhambra*[12] in 1842.

Whilst carrying out the survey and later when he was preparing the drawings for publication it became increasingly clear to Jones that there was a regularity and harmony of proportion apparent in the ornament of the various halls which could not have come about just by chance. He noticed that many of the ornaments had been repeated in different parts of the complex and yet they always fitted the places they occupied. Jones reasoned that if the same ornaments, cast from the same mould as it were, appeared to fit within spaces of different shapes they must have been designed to a certain fixed rule of proportion. Aware of Vitruvius's statement that the ancients always determined 'that

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[12] JONES, OWEN (1842) Vol 1 *Plans, Elevations, Sections and Details of the Alhambra* (London: published by the author). The title page of this volume reads: *Plans, Elevations, Sections and Details of the Alhambra: from drawings taken on the spot in 1834 by the late M. Jules Goury and in 1834 and 1837 by Owen Jones, Archt. with a complete translation of the Arabic inscriptions, and an Historical Notice of*

each part of a composition should be some aliquot part of the whole',[13] Jones concluded that in the compositions of the Moors, the whole assemblage of forms and even each particular member was a multiple of some unit.[14]

With this understanding came the realisation that, as with form, the system of colouring adopted by the Moors had followed a number of fixed principles and that with close examination of the decorations these principles might be revealed. This idea of a system of ornamentation seems to be implied by the many inscriptions which appear in the various halls and were translated by M. Pasqual de Gayangos for *The Alhambra.* Two in particular seem to convey the sense of an ordered code in the decorations:

> 'I am the garden, and every morn do I appear decked out in beauty. Looking attentively at my elegance, thou will reap the benefit of a commentary on decoration'.[15]

and likewise in the *Hall of the Two Sisters*:

> 'How many delightful prospects I enfold! How many objects, in the contemplation of which a highly gifted mind finds the gratification of its utmost wishes!'[16]

The method by which Jones chose to describe and discuss the Alhambra suggests the influence of the French art historian Séroux d'Agincourt (1730-1814).[17] It seems probable that Jones was first introduced to the work of Séroux by his friend Jules Goury. In his work *Histoire de l'art par les monuments, depuis sa décadence au IVe siècle, jusqu'à son renouvellement au XVIe* (Paris, 1811-1823)[18] Séroux d'Agincourt had adopted the 'powerful combination of aesthetic appreciation and chronological

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the Kings of Granada, from the Conquest of that City by the Arabs to the Expulsion of the Moors, by Mr Pasqual de Gayangos. (referenced hereafter as JONES: *Alhambra*)

[13] JONES, OWEN (1854): *The Alhambra Court in the Crystal Palace* (London: Bradbury & Evans), p.33 (referenced hereafter as JONES: *Alhambra Court*)

[14] See FERNANDEZ-PUERTAS, ANTONIO (1997) *The Alhambra* (London: Saqi) pp.16-17. Jones and Goury's publication provided a reference point for this study.

[15] This inscription in Cufic script appears over the mosaic dado of the Hall of the Two Sisters.

[16] Hall of the Two Sisters

[17] FLORES: pp.80-81

[18] SÉROUX D'AGINCOURT, JEAN BAPTISTE (1811-23): *Histoire de l'art par les monuments, depuis sa decadence au IVe siecle, jusqu'a son renouvellement au XVIe* (Paris) Translated by Owen Jones

narrative'[19] which had been developed by Johann-Joachim Winckelmann. A. Vidler notes that Séroux d'Agincourt shared Winckelmann's objective of being an historian-critic whose task was 'to derive from the work its own ideas...to become an aesthetician of the invisible by means of abstraction from the visible.'[20] The actual method of analysis adopted by Séroux d'Agincourt in his *discours graphique* took the stance that the products of the arts could only be assessed by the eyes and, therefore, that '...one should only write or study their history with their different productions before one's eyes...and it was for this reason that he counted the preparation of places as the better part of the work.' Séroux insisted that:

> 'What the historians of the fine arts have been willing enough to say, I wish to show...Here, it is, above all, the monuments that should speak; I have charged myself, in some way, only to write under their dictation, all the more to explain or comment on their language.'[21]

In *The Alhambra* Jones chose to describe the monument very largely by graphic methods, using carefully drawn plans, elevations, sections and details accompanied by quite brief explanatory text. The general history and development of the Moorish citadel and palace was covered by an initial introductory section.

This was followed by a series of plates showing both general views in monochrome and detailed drawings, some of which were printed in colour, and each preceded by a page of explanatory text. Within the text appeared translations of the Arab inscriptions prepared by M. Pasqual de Gayangos. By the time *The Alhambra* was published in 1842 it is reasonable to suppose that Jones was beginning to form an opinion as to the principles which lay behind the Moors' use of colour but it is only in

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(1847) under the title *History of Art by its Monuments from its Decline in the Fourth Century to its Restoration in the Sixteenth,* 3 volumes in 1 folio (London: Longman, Brown, Green and Longmans)

[19] VIDLER, ANTHONY (1987): *The Writing on the Walls* (New York: Princeton Architectural Press) p.5 quoted by FLORES, p.77 (referenced hereafter as VIDLER)

[20] VIDLER: p.128

[21] VIDLER: pp.180-81 (quoting SÉROUX *Histoire,* Vol. 1, i)

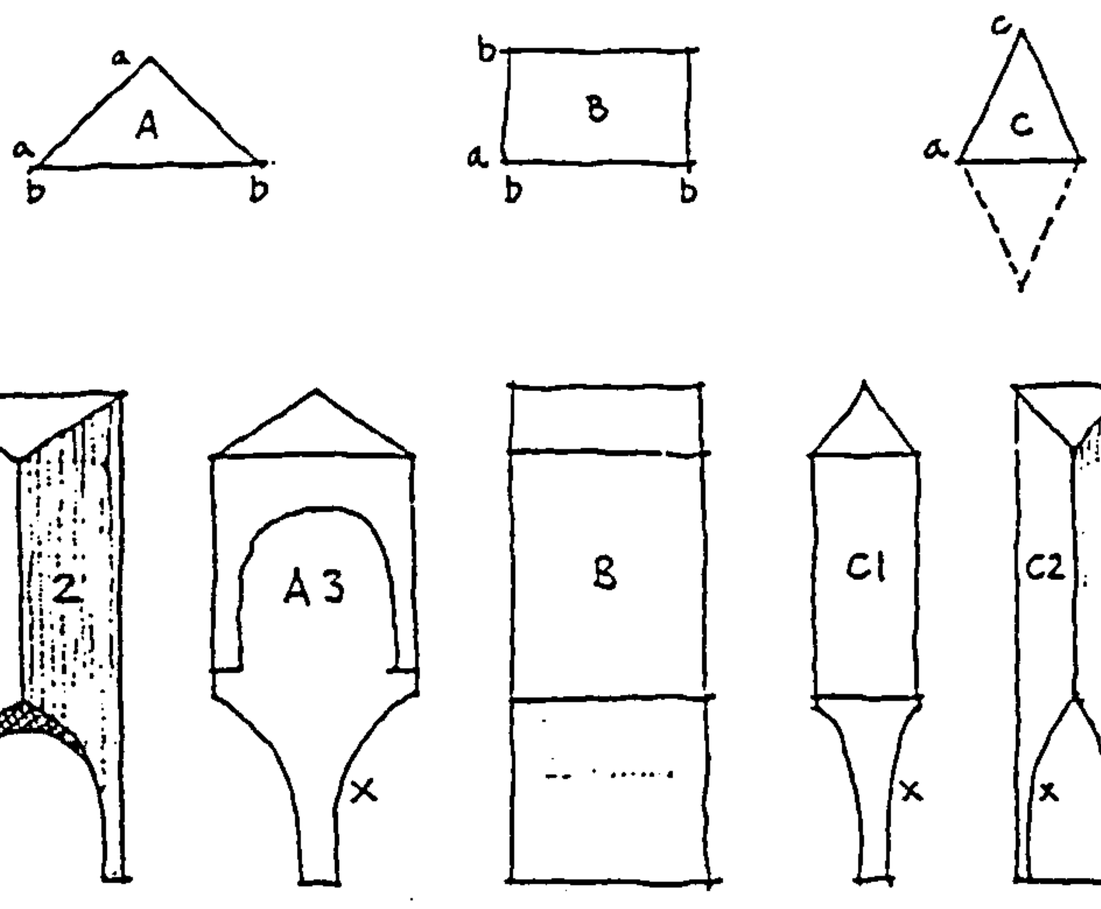
the text accompanying Plate XXXVIII[22] (a plate specially prepared to show the colours as they appeared in the building at the time of the survey), that he gives the first indication of this. In describing the colours which had been originally used he stated:

> '...the colours employed were in all cases, the primitive blue, red and yellow (gold); the secondary colours, purple, green and orange, occurring only in the mosaic dados, which being near the eye, formed a point of repose.'

Plate IX (see Fig. II.3) which shows a Divan (alcove) in the Court of the Fish-pond, makes this point rather better, showing as it does, the differences in colouring between the primary colours at high level and the secondaries at dado level.

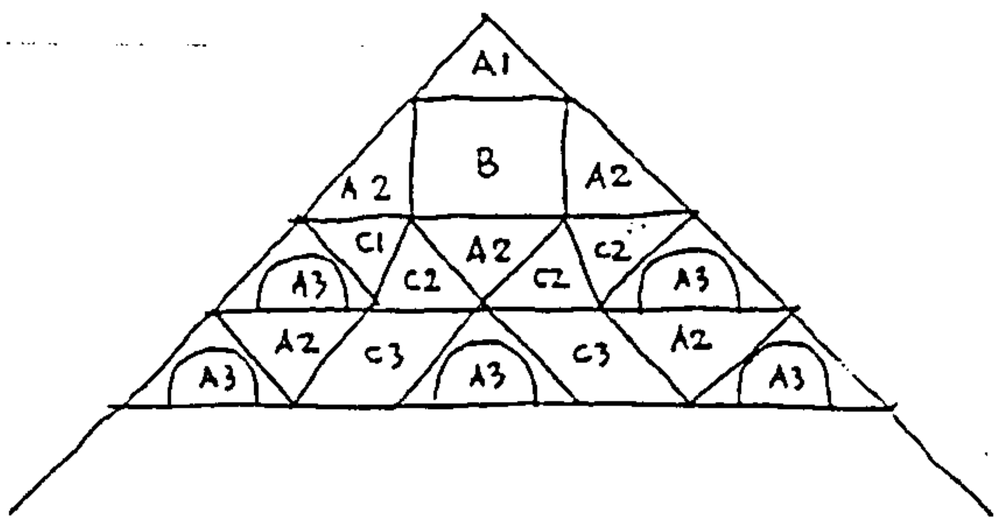
The semi-dome within this alcove is formed with prisms of plaster which are painted in primary colours and, while he makes no further comment about these in the text accompanying Plate IX, Jones discusses the design and appearance of these pendentives in relation to the ceilings of the Halls of the Bark, Ambassadors, Justice, Abencerrages and Two Sisters, all of which feature this type of ornament.

Reference has already been made to Jones's awareness of the Moors use of proportional ratios in the building and he uses the construction of the pendentive form of ceiling as an example. With the aid of some simple diagrams he explains the mathematical basis for their shapes:



FORMS OF PLASTER PRISM

[22] *Alhambra*: plate XXXVIII, 'Actual state of the colours'



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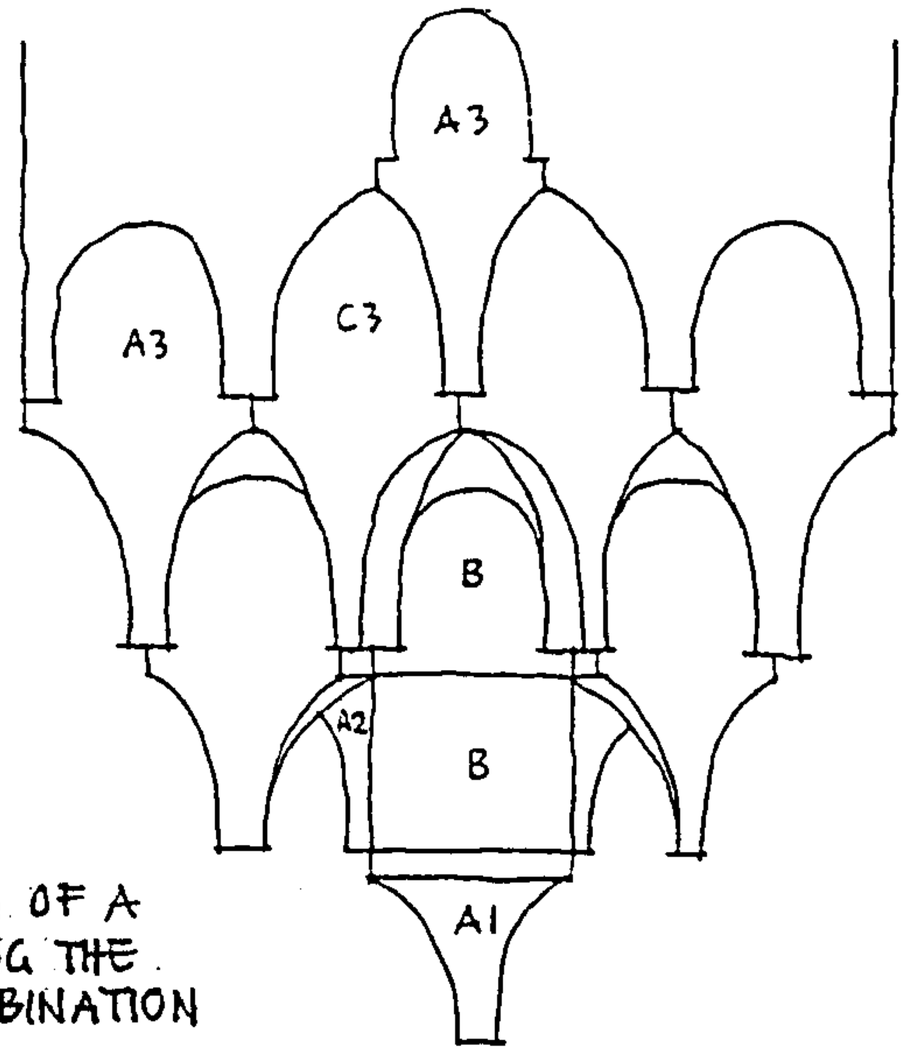

PLAN AND ELEVATION OF A PENDENTIF CONTAINING THE SEVEN PRISMS IN COMBINATION

'The ceiling of the Hall of the Bark, a wagon headed dome of wood, of most elaborate patterns, as may be seen in the general section of the Court of the Fishpond, and the Hall of the Ambassadors, receives its support at each end from pendentives, abutting against the great arches. These pendentives are of very curious mathematical construction. These are composed of numerous prisms of plaster, united by their contiguous lateral surfaces, consisting of seven different forms proceeding from three primary figures on plan: they are, the right angled triangle (A), the rectangle (B), and the isosceles triangle (C). In these (aa, ab, ac) are equal; (ba) is equal to (bb) and the vertical angle of the isosceles triangle (c) is 45°. The figure (B) has one form, in section; the figure (A) three; and the figure (C) three; the third (C3) being a rhomboid, formed by the double isosceles triangle. The curves (xxx) of the several pieces are similar by which it will be seen that a piece may be combined with any one of the others by either of its sides; thus rendering them susceptible of combinations as various as the melodies which may be produced from the seven notes of the musical scale.'[23]

Jones then went on to point out that colour added a further dimension to the design of these pendentives:

'The richness obtained by the varied combinations of the several geometrical figures, mentioned in the description to Plate X which form the pendentives,

[23] JONES: *Alhambra*: Notes to plate X

> arches and roofs of the Halls, is greatly assisted by the colouring adopted, and the beautiful ornaments painted on their surfaces.'[24]

In the text which accompanies Plate XXXVIII Jones introduced a theme to which he would return on occasions in the years ahead - the relationship between colour and the artistic vitality of a civilisation. 'Observe', he said,

> 'that amongst the Arabs, the Egyptians and the Greeks, the primitive colours, if not exclusively employed, were certainly nearly so, during the early periods of art, whilst during the decadence, the secondary colours became of more importance. Thus in Egypt in the Pharonic temples we find the primitive colours predominating; in the Ptolemaic temples, the secondary; so also on the early Greek temples are found the primitive colours; whilst at Pompeii every variety of shade and tone was employed.'[25]

Beyond these examples of early insights into the principles which lay behind the Moors' use of colour, the purpose of colour references in *The Alhambra* is mainly to supplement the visual information supplied by the drawings. For instance, in the text which accompanies Plate VIII (Hall of the Ambassadors) it is observed that the original dome with stalactite pendentives had collapsed and in its place a ceiling of wood had been constructed 'ornamented by ribs intersecting each other in various patterns with ornaments in gold painted on grounds of blue and red in the interstices.'[26]

In 1845 Jones published a second volume of drawings of the Alhambra entitled *Details and Ornaments from the Alhambra* which featured a series of coloured plates produced between 1840 and 1845. This was conceived as a supplement to the first volume and included no text. During the ten years that Jones had been engaged in studying the Alhambra and preparing his two volumes he developed a much better understanding of the principles which had guided the Moors in their design of decoration but, as there was no documentary evidence to support his theories, he was

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[24] JONES: *Alhambra*: Notes to plate XII
[25] JONES: *Alhambra*: Notes to plate XXXVIII
[26] JONES: *Alhambra*: Notes to plate VIII

unable to claim with certainty that he was correct in his beliefs. As he was to remark a few years later,

> 'Whether the Moors in their marvellous decorations worked on certain fixed rules, or only in accordance with a highly organised natural instinct to which they had arrived by centuries of refinement upon the works of their predecessors, it would be difficult to say.'[27]

By the time Jones was engaged in producing the Alhambra Court for the Crystal Palace at Sydenham in 1854 he had had several years to reflect on what the guiding principles for the Moors' use of colour must have been. In the handbook which was prepared for visitors to the Alhambra Court he took the opportunity in a section entitled 'On the Colouring of the Moors', to set down those inner truths that he believed he had discovered.

In the forefront was his observation that 'the ancients always *used colour to assist in the development of form*, always employed it as a further means of bringing out the constructive features of a building.'[28] In the Alhambra the constructive lines of the building were well defined by colour. Comparisons could be made with Egyptian architecture where colour was used so 'that the appearance of strength in the column was increased, and the contours of the various lines more fully developed.'[29] Similarly, in Gothic architecture the upward-running spiral lines of colour in the columns added to their apparent height and at the same time helped to define their form. The forms of their panel work and tracery were also assisted by colour. The Moors evidently understood that the skilled application of colour could contribute towards illusory effects so that 'an apparent additional height, length, breadth or bulk always results from its judicious application.'[30] And where ornament was in relief the contrasts in colour

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[27] JONES: *Alhambra Court*: p. 46
[28] JONES: *Alhambra Court*: p. 42
[29] JONES: *Alhambra Court:* p. 42
[30] JONES: *Alhambra Court*: p. 43

had been used to bring out 'new forms which would have been lost altogether without it.'[31]

Jones was convinced that nature, 'in whose works every transition of form is accompanied by a modification of colour',[32] had been the inspiration for the Moorish artists. There was no need to look very far for examples in nature to emphasise this point: 'flowers are separated by colour from their leaves and stalks, and these again from the earth in which they grow'.[33] And the human figure and features provided further illustration of the principle at work: 'in the human figure every change of form is marked by a change in colour.'[34]

In regard to the location of colours for decoration Jones noted that, 'With the Moors, as a general rule, the primary colours were used on the upper portions of objects, the secondary and tertiary on the lower.'[35] At the time Jones carried out his survey of the Alhambra much of the original ornament had been covered with thin coats of whitewash. In spite of this handicap he had succeeded in establishing the colours of all the ornament, either by scraping off portions of the whitewash or by finding fragments of colour which had been retained in crevices, techniques which had enabled him to record the patterns of colour usage throughout the palace. As a result he was able to claim with authority that the Moors had been so systematic and consistent in the way they had applied colour to ornament, that it was possible, on being shown a piece of Moorish ornament in white, to predict the colouring which would have been used. As he remarked, 'the surface alone will indicate the colours they were destined to receive. Thus, in using the colours blue, red and gold, they took care to place them in such positions that they should be best seen in themselves, and add most to the general

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[31] JONES: *Alhambra Court*: p. 43. This point is particularly well made by many of the plates in Volume 2 of Jones's *Alhambra* (*Details and Ornaments of the Alhambra*, 1845).
[32] JONES: *Alhambra Court*: p. 43
[33] JONES: *Alhambra Court*: p. 43
[34] JONES: *Alhambra Court*: p. 43

effect.'[36] From his study of the manner in which colours had been applied to surfaces Jones was able to reach the conclusion that:

> 'On moulded surfaces they placed red, the strongest colour of the three in the depths, where it might be softened by shadow, never on the surface; blue in the shade, and gold on all surfaces exposed to light; for it is evident that by this arrangement alone could their true value be obtained.'[37]

This analysis of the way in which colours had been distributed so as to achieve the best general effect introduced a further observation concerning the necessity of providing separation of colours so that they do not impinge on each other. Jones noticed that colours were either separated by white bands or in the case of relief ornament by the shadow between the two surfaces, one raised above the other.

A further refinement was to become apparent concerning the proportions in which primary colours should be combined so as to neutralise each other and produce harmonious effects. Through experiments which had been made with the prismatic spectrum it had been established that 'rays of light are said to neutralise each other in the proportions of 3 yellow, 5 red and 8 blue; thus it requires a quantity of blue equal to the red and yellow put together to produce a harmonious effect.'[38] Jones noted that, because gold took the place of yellow in the Alhambra and this tends towards a reddish-yellow, it was necessary to increase the proportion of blue still further so as to ensure that the red did not overpower the other colours.

One of the effects of publication of *Plans, Elevations and Sections of the Alhambra* was that it brought Owen Jones into contact with the art-writer and educationalist Henry Cole,[39] an event which was to shape his career over the next few years. Cole, at that time, was no more than a well-informed and interested amateur in the world of the visual arts but his energetic and forceful character led him to exert

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[35] JONES: *Alhambra Court*: p. 44
[36] JONES: *Alhambra Court*: p. 45
[37] JONES: *Alhambra Court*: p. 45
[38] JONES: *Alhambra Court*: p. 46

considerable influence through his writing and he did much to shape public opinion. As early as 1843 for instance we find three articles by him[40] on the subject of 'Decoration' appearing in the influential *Athenaeum*[41].

Although Cole's interest in the visual arts was far ranging he was particularly concerned with improving the standard of design of contemporary industrial products. With this aim in view he created an organisation known as *Summerly's Art Manufacturers* in 1847 with the express intention of forming a link between art and manufacturers. By calling on the talents of a number of leading painters and sculptors of the day, many of whom were academicians, he sought to lift the standard of design and manufacture products which would combine utility and beauty at modest cost.

Henry Cole was to play such an important role in the later development of Jones's career that a few words are needed to explain how it was he came to eventually wield so much influence in the art world of the 1850s. In 1847 and 1849 parliamentary committees were set up to examine the standards, administrative and artistic, of the Government Schools of Design which had been originally set up in 1837 to provide training for designers going into the manufacturing industries. This was in response to widespread criticism of the standards of art and design education at the time. As a senior civil servant with known interests in the arts, Cole was made responsible for organising these investigations and it was his job to prepare reports for the Board of Trade on the state of affairs within these schools.

Cole's Report of 1849 drew attention to the fact that there was confusion within the schools as to the best method of training designers who were going into the manufacturing industries. One camp of opinion held that designers could be trained merely by schooling them in imitative drawing. Another camp considered this to be

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[39] FLORES: p.135

[40] The articles are unsigned but warranted through entry in the V&A Library catalogue

totally inadequate and argued that designers should receive practical instruction on the technical aspects of design, an approach which would need to vary according to the materials and techniques being used; another factor was the use to which the products would eventually be put. The implication of this approach was that training methods could not be standardised in quite the way they could be using imitative drawing and it was therefore necessary to find sets of rules in regard to the artistic, technical and practical aspects of design which could be used as a guide for the benefit of instructors and trainees. Cole firmly allied himself with this latter school of thought. In an effort to bring about change in the training methods at the Schools of Design he proceeded from 1849 to publish a monthly pamphlet entitled *The Journal of Design* in which a group of leading artist-writers such as R. Redgrave, W. Dyce, M.D. Wyatt, Gottfried Semper and Owen Jones set down their ideas on the underlying principles which lay behind good design. In the last volume of this journal Cole stated:

> 'It was moreover, the aim of the Journal to endeavour to find preferred advocates for the acknowledgement of *principles in Design* and to lose no occasion of denouncing the spurious freedom involved in the fallacy "Everyone to his own taste!"'[42]

It may be seen then that Henry Cole was instrumental in bringing about an altogether more systematic approach to the teaching of design during this period and in the process he brought a number of artists, including Jones, round to his way of thinking.

Cole is usually credited with being the first to have the idea of holding the 1851 Great Exhibition and putting it as a proposal to Prince Albert.[43] Whether or not this was indeed the case, he was certainly to become very closely involved with the project and could ultimately claim to have had a good deal of responsibility for its success. It was

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[41] *Athenaeum, The* (1843): pp. 1074-75; 1114-15; 1162-64
[42] *Journal of Design* (1851-52): Vol. VI, Preface iii
[43] FLORES: p.137

through his recommendations that in 1850 Owen Jones was appointed to assist the Building Committee in developing a design for the exhibition building and supervising its construction. Although he was formally termed 'Superintendent of Works', with the implication that he was in an essentially managerial role supervising the work of others, the turn of events led to him making his own proposals for the decoration of the building.

Jones's decorative scheme for the interior of the Crystal Palace drew heavily on the principles of optical colour fusion, which he had discovered at the Alhambra, reinforced by the theories of George Field, Michel Chevreul and the painter-scientist, Sir David Brewster. At an Ordinary General Meeting at the Royal Institute of British Architects held on 16 December 1850, Jones delivered a paper entitled 'On the Decorations proposed for the Exhibition Building in Hyde Park'[44] which explained the principles behind his proposals. Overall, colour was to be used in such a way that it created an atmosphere of warm light (what he referred to as a neutralised bloom), so that even on grey and misty days there would be a sensation of warm sunlight.

> 'Inside the shafts of the uprights were striped blue and yellow (separated by white) vertically, and their capitals blue and white horizontally. The horizontal girders were blue and white with red soffits while the roof members were yellow with red soffits, the colours being separated by thin white lines. The three primary colours were applied in amounts, Jones stated, corresponding to George Field's formula for colour balance: 5 parts red to 8 parts blue to 3 parts yellow. The white lines separating the colours were derived from Chevreul's laws for obtaining colour distinctness and vividness. The colours furthermore were applied to bring out the three dimensional form of the iron members: blue, which retires, on the concave surfaces: yellow, which advances, on the convex: and red, the colour of the middle distance, on the horizontal planes...In application this meant yellow on the ends of the cross shaped uprights and blue on the groins while red was usually applied to soffits. Jones stated that his general objective in this was to apply the colours so that when seen from a distance they would neutralise each other and provide a vibrant background grey for the exhibits, while, when examined close at hand, they would articulate the lightly moulded forms of Barry's columns.'[45]

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[44] The text of this paper was reported in *The Times* on 17 December 1850 and *The Athenaeum* on 21 December 1850.

[45] VAN ZANTEN: p. 240 (The source for this passage is *The Athenaeum*, 21 December 1850, pp. 1347-8)

The interior colouring of the Crystal Palace was regarded as a great success if we are to judge from a contemporary description in the press:

> '...as the eye wanders up the vistas, the three primitive colours of Sir D. Brewster, red, yellow and blue, strike the eye by the intensity of their brightness in the foreground but by blending in the distance, by the effects of parallax and diminished visual angle, the whole as in nature disappears into a neutral gray. To appreciate the genius of Owen Jones the visitor must take his stand at the extremity of the building. Looking up at the nave, with its endless rows of pillars, the scene vanishes from extreme brightness to the hazy indistinctness which Turner alone can paint.'[46]

As we look at a contemporary watercolour of the interior of the Crystal Palace (Fig. II.4) it is easy to see that on a day bathed in warm sunlight the colours must have contributed to a feeling of great vibrancy. Without first hand knowledge of the building it is impossible to judge the extent to which the effect produced by colour depended on the quality of light externally. If the quantity of yellow is reduced in a colour photocopy of the watercolour the effect is much more that of a murky day in England (Fig. II.5). The question remains then: how much did the use of primary colours create the desired sensation of a 'bloom' when the colour had little light with which to be saturated?[47]

At the time that Jones produced his decorative scheme for the interior of the Crystal Palace he was already, with the encouragement of Henry Cole, giving much thought to the task of rationalising a set of principles which could provide guidance to architects and designers on the use of colour and form in the decorative arts. This work was given considerable impetus in 1852 by his involvement with the new Museum of Ornamental Art. This museum, or perhaps more explicitly 'gallery', was set up as an

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[46] *Illustrated London News* : 10 May 1851, p. 392

[47] See JONES, OWEN (1863): 'An Attempt to Define the Principles which should regulate the employment of Colour in the Decorative Arts', in *Lectures on Architecture and the Decorative Arts* (London: privately published) p.19. This lecture was delivered to the Royal Society of Arts on 28 April 1852. (referenced hereafter as JONES: 'Colour in the Decorative Arts'). Jones made an interesting observation about the visual effects caused by the removal of the canvas roof covering, provided to cut out glare. He claimed that the aerial perspective effect disappeared when the canvas was removed because the reds and yellows tended to disappear, thus emphasising the blue on the girders. This had the effect of making the nave appear 200 to 300 feet shorter because the eye had lost the power to measure beyond a

adjunct to the School of Design, at the time housed in Marlborough House, London, and put on display a number of articles, each specimen of which had been selected 'for its merit in exemplifying some right principle of construction or ornament, or some feature of workmanship to which it appeared desirable that the attention of our students and manufacturers should be directed.'[48] Jones, together with Cole and Richard Redgrave (1804-1888) set about preparing a catalogue to list the articles on display and provide an explanation of the reasons for their inclusion. It went further than this however in that it set out a series of 'Principles of Decorative Art' which had been developed by Jones. From this point he proceeded to publicise these principles in a series of lectures delivered during 1852.[49]

It has already been noted that through careful study Jones had been able to discover the underlying principles in the use of colour which had guided the Moors at the Alhambra. Since study of Gothic architecture was also contributing much at the time to contemporary architecture it is worth noting the reasons why Jones was unable to draw the same level of inspiration from the historic use of colour in English Gothic buildings. At the time when Owen Jones returned to Britain in 1834, following his study of the Alhambra with Jules Goury, he found himself immediately drawn into that 'rich world of architecture debate' which David Watkin has described as existing in England during the 1830s.[50] Towards the end of 1835 Jones was invited to deliver a lecture to the Architectural Society in London and he decided to treat this as an opportunity to speak out against the reproduction of what he called 'extinct styles' by

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certain distance. While the canvas was on the roof the differing colours enabled the eye to distinguish girder from girder and thereby judge the distance more accurately.

[48] MORRIS, BARBARA (1986): *Inspiration for Design, the Influence of the Victoria and Albert Museum* (London: V & A) p.20 quoted by FLORES, p.165

[49] JONES, OWEN (1863): 'On the True and the False in the Decorative Arts' in *Lectures on Architecture.* This lecture was included in a series of three delivered during 1852 at the Museum of the Department of Science and Art, Marlborough House. (referenced hereafter as JONES: 'True and False')

[50] WATKIN, DAVID (1980): *The Rise of Architectural History* (London: The Architectural Press) pp. 64-69

contemporary architects and to appeal for the creation of a style which was more truly representative of its age. In this lecture, which he titled 'On the Influence of Religion upon Art',[51] Jones argued that architectural styles in the past had mirrored the civilisations which created them and, moreover, that they were invariably the result of their religious institutions. He maintained that this point held true whether one was speaking about the architecture of Egypt under the Pharaohs, the ancient Greeks, the Gothic architecture of the Middle Ages in Germany, France and England or Arabian art in Egypt, Turkey and Spain. In each of these styles ornament had played an essential part in defining the character of the style, but behind the visual aspects of the colour and form its purpose lay principally in the representation of religious symbolism. No better example could be found to explain this than the architecture of ancient Egypt, whether the buildings were temples or edifices of public importance. In the temples 'the most simple of the numerous ornaments which decorate every corner of those buildings...contain historical facts, dates or religious injunctions to be faithful.'[52] In a similar way the ornament on the public parts of temples and on tombs provided records about the arts, science and commerce practised by the people. In fact, Jones believed, there had never been a style of architecture which had been 'so fully capable of handing down to posterity a complete chronicle of the manners, customs, knowledge, and feelings of a people.'[53]

In just the same way the Gothic architecture of medieval England had been a record of medieval society, but with the coming of the Reformation this connection had been broken. Taken at its acme no style had been 'more beautiful, none more glorious' than the Gothic style, 'yet it had worn itself out through feebleness and indifference

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[51] JONES, OWEN, (1863): 'On the Influence of Religion Upon Art' in *Lectures on Architecture.* This lecture was delivered to the Architectural Society on 1 December 1835. (referenced hereafter as JONES: 'On the Influence of Religion')
[52] JONES: 'On the Influence of Religion': p.5
[53] JONES: 'On the Influence of Religion': p.6

when the Reformation came and destroyed it altogether.'[54] With the Reformation came huge diversity in the expression of Protestant faith so that there were 'almost as many different sects and divisions as there are individual followers of Christ'[55] and this disordered state of affairs was represented by the architecture. Instead of there being one cohesive style which was the expression of a unified faith, the church had often adopted classical styles with classical ornament; 'inappropriate emblems from Pagan altars decorated the temple of the one God',[56] as Jones put it.

In a similar way the style of domestic architecture in the Gothic period, for castles, manor houses and monasteries had come about through the peculiar needs of their times - needs which no longer survived: in an echo of Pugin, he wrote 'Cloisters without monks, embattled towers without an enemy, are exhibitions of equal folly.'[57] And so, Jones argued, if it was folly to reproduce these extinct styles in buildings, it must be even more ludicrous to reproduce the ornament which was associated with them. In this lecture may be seen therefore the germs of an important general principle, which he was to state explicitly in the *Grammar of Ornament* 'architecture is the material expression of the wants, the faculties and the sentiments, of the age in which it was created.'[58]

Jones's rejection of Gothic buildings as a source for a contemporary style was more forcefully summed up by a remark made during his lecture on 'Colour and the Decorative Arts'.

> 'The works of the elder Pugin and Britton with a host of followers have flooded the country with Gothic buildings...I admire and appreciate the Gothic buildings, which were the expression of the age in which they were created, but I mourn

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[54] JONES: *Alhambra Court*: p.12
[55] JONES: 'On the Influence of Religion': p.19
[56] JONES: *Alhambra Court*: p.12
[57] JONES: *Alhambra Court*: p.15
[58] JONES, OWEN (1856): *The Grammar of Ornament* (London: Day and Son), Proposition 2, p.5 (referenced hereafter as JONES: *Grammar*)

over the loss which this age has suffered and still continues to suffer by so many fine minds devoting all their talents to the reproduction of a galvanised corpse.'[59]

In contrast to Gothic buildings in Britain where colour had been removed by the Reformation,[60] there was enough surviving colour at the Alhambra to identify the principles which had provided the basis of Moorish decoration. Although these had not been committed to writing there was evidence to suggest from the consistency of design that the Moors' brilliant use of colour and ornament had adhered to guidelines which could be extrapolated. In certain respects the system of ornament which the Moors worked to was restrictive in that it relied heavily on geometric forms and the introduction of Cufic caligraphy; nor could there be any representation of the human form in the decorative motifs. Beyond that, however, the rules which controlled the way in which colour and form were to be used were not limiting and provide endless opportunities for invention and interpretation. It was possible therefore, in theory, to follow these guidelines and to produce contemporary ornament without it being necessary to copy Moorish work. Herein lay the attraction of the Moorish style of ornament for Jones, in contrast to the Gothic or other historical styles, which did not provide an avenue for the development of a contemporary style in the same way.

Of the thirty-one principles which were explained in the series of lectures given by Jones in 1852 at the Museum of Ornamental Art, Marlborough House,[61] and were included in an appendix to the catalogue to the exhibition, twenty dealt specifically with the use of colour. These also formed the basis of the lecture delivered earlier in the year to the Society of Arts which was entitled 'An Attempt to Define the Principles which should Regulate the Employment of Colour in the Decorative Arts'[62]. In this lecture Jones explained that he derived his principles on the use of colour from his observations

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[59] JONES: 'Colour in the Decorative Arts': p.47
[60] JONES: *Grammar*: p.103
[61] JONES: 'True and the False'
[62] JONES: 'Colour in the Decorative Arts'

of nature, science and architecture. Beginning with Nature, he noticed that 'Colour is used to assist in the development of form, and to distinguish objects or parts of objects one from another' [Proposition Twelve in the Catalogue and I in the lecture]. He reasoned that 'had nature applied but one colour to all objects, they would have been indistinct; but, by an ever-changing variety, each had its proper tone and hue, from the modest lily of the field to the parent of all colour, the glorious sun in the heavens'.[63] But, he explained, the buildings of antiquity, whether in the architecture of ancient Egypt, in Gothic cathedrals or in Arabian art, colour had always been used to bring out the constructive features of a building. One could observe that 'the ancients ever obeyed this law; thus the capitals of their columns are separated by colour from the shafts, and these, again, by colour from their bases or pedestals.'[64]

Proposition Thirteen was also derived from Nature: 'Colour is used to assist light and shade, helping the undulations of form by the proper distribution of the several colours.' [Proposition Thirteen in the Catalogue and II in the Lecture]. Without light and shade distinctive forms of objects can be unrecognisable, so that a globe without light and shade can be perceived as a circle, the reason for this being that 'the light on the exposed surface and the shade on the retiring surface alone convince us of its rotundity.'[65]

The next proposition originated from Jones's observations of the way colour was used at the Alhambra. 'These objects are best obtained by the use of primary colours on small surfaces and in small quantities, balanced and supported by the secondary and tertiary colours on the larger masses.' [Proposition Fourteen in the Catalogue and III in the lecture]. Reference has already been made to this concept of the use of colour in

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[63] JONES: 'Colour in the Decorative Arts': p.13
[64] JONES: 'Colour in the Decorative Arts': p.13
[65] JONES: 'Colour in the Decorative Arts': p.14

regard to the Divan to the Court of the Fish Pond (Fig. II.3) in the Alhambra.[66] In the lecture Jones developed his remarks to counter Goethe's contention that it was primitive people who had a fondness for bright colours. He observed 'there are many who will object that the primary colours are the delight of the savage or uncultivated, but I answer that the primary colours are never vulgar or discordant when properly applied; the defect will lie not with the colours, but with the want of skill of the hand that applies them.'[67] This led him to a theme, earlier explored in *The Alhambra* and the lecture 'On the Influence of Religion upon Art': that the contrast of primaries was evident in the classic periods of Egyptian, Greek, Arab and Moorish art, but when the art of each of these civilisations declined, the primaries were no longer the principal harmonies, 'the secondaries and tertiaries, from being subordinate, became dominant, and muddiness and indistinctness resulted.'[68]

The fourth proposition also owed its origins to Jones's understanding of the Moors' use of colour at the Alhambra. 'The primary colours should be used on the upper portions of objects, the secondary and tertiary on the lower.'[69] While the Arabs seem to have consistently followed this practice it was noted that the rule had been adopted by other cultures. There was an exception, however, in the case of the Egyptians where green was extensively used in the upper part of their temples. This practice had originated from the symbolism of Egyptian ornament, where the green was suggestive of lotus leaves. Other than that 'the general aspect of an Egyptian building gives us the primaries above and the secondaries below.'[70]

At this stage in his lecture Jones took the opportunity to explain how these first four propositions concerning colour had been the basis of his scheme for the interior of

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[66] JONES: *Alhambra*: plate IX (see Fig. II.3)
[67] JONES: 'Colour in the Decorative Arts': p. 14
[68] JONES: 'Colour in the Decorative Arts': p.15
[69] JONES: 'Colour in the Decorative Arts': p.17
[70] JONES: 'Colour in the Decorative Arts': p.17

the Crystal Palace. Proposition Twelve in the Catalogue [I in the lecture] had been observed 'to bring out the construction of the building that it should appear higher, longer and more solid.'[71] Proposition Thirteen [II in the lecture] was observed 'so to colour each particular part that its light and shade should be assisted, and its peculiar form made most manifest.'[72] Most ingeniously, Propositions Fourteen and Fifteen [III & IV in the lecture] were followed so that the primary colours of the building and the secondary and tertiary colours of the contents of the exhibition would produce a harmonious whole. Thus, Jones explained

> 'the effect which I had sought of the colouring of the building forming a neutralised bloom over the whole of the contents was attained to such an extent, that those who only saw it when completed looked in vain for that vulgar and discordant colouring, of which they had heard so much during the progress of the work.'[73]

At this point Jones made his remarks, already quoted, on how the removal of the roof canvas at the close of the Great Exhibition had effectively destroyed the carefully contrived balance between the colours and with it the effect of aerial perspective.

The next six propositions [Sixteen to Twenty-two in the Catalogue and V to XXI in the lecture to the Society of Arts] took on a more scientific character, following George Field's theories concerning the proportions by which harmony in colouring is produced.

Proposition Sixteen states:

> The primaries of equal intensities will harmonise or neutralise each other in the proportions of 3 yellow, 5 red and 8 blue, - integrally as 16.
> The secondaries in the proportions of 8 orange, 13 purple, 11 green, - integrally as 32.
> The tertiaries, citrine (compound of orange and green), 19; russet (orange and purple), 21; olive (green and purple), 24; - integrally as 64.
> It follows that, -

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[71] JONES: 'Colour in the Decorative Arts': p.18
[72] JONES: 'Colour in the Decorative Arts': p.18
[73] JONES: 'Colour in the Decorative Arts': p.19

> Each secondary being a compound of two primaries is neutralised by the remaining primary in the same proportions, - thus, 8 of orange by 8 of blue, 11 of green by 5 of red, 13 of purple by 3 of yellow.
> Each tertiary being a binary compound of two secondaries, is neutralised by the remaining secondary - as 24 of olive by 8 of orange, 21 of russet by 11 of green, 19 of citrine by 13 of purple.[74]

Proposition Seventeen qualifies the previous one:

> The above supposes the colours to be used in their prismatic intensities, but each colour has a variety of *tones* when mixed with white, or of *shades* when mixed with grey or black.[75]

The next Proposition, Eighteen, is related:

> Each colour has a variety of hues, obtained by admixture with other colours, in addition to white, grey, or black: thus we have of yellow, orange-yellow on the one side, and lemon-yellow on the other; so of red, - scarlet-red, and crimson-red; and of each every variety of *tone* and *shade*.
> When a primary tinged with another primary is contrasted with a secondary, the secondary must have a hue of the third primary.[76]

In regard to these Jones remarked that 'the truth of these two last propositions is so evident that they would hardly require discussion...were we not reminded by all we see around us how much they are every day disregarded.'[77] He added it was 'evident that, for the proper balancing of such infinite varieties of tones, shades, and hues, no mechanical means can be found of estimating the value of the colours, or the relative areas they should occupy'; however,

> 'it is by study and cultivation alone that any approach to perfection can be reached, and he who can carry in his mind the proportions which science thus teaches us, will be in a far better condition to arrive at success than he who trusts to his unaided instincts and natural gifts.'[78]

To emphasise this point Jones pointed to the East Indian collection of textile fabrics at the Great Exhibition as an example of the perfect application and balance of colour, remarking that 'contrasting colours appeared to have just the tone and shade required; the contrivances by which they corrected the power of any one colour in

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[74] JONES: 'Colour in the Decorative Arts': pp. 20-21
[75] JONES: 'Colour in the Decorative Arts': p.21
[76] JONES: 'Colour in the Decorative Arts': p.22
[77] JONES: 'Colour in the Decorative Arts': p.22

excess most ingenious',[79] and recommended the study of their colour for every student 'as well as for everyone of a cultivated mind.'[80]

> Proposition Nineteen in the Catalogue [Number VIII in the lecture] stated:
>
> In using the primary colours on moulded surfaces, we should place blue, which retires, on the concave surfaces; yellow, which advances, on the convex; and red, the intermediate colour, on the undersides; separating the colours by white on the vertical planes.
> When the proportions required by proposition 16 cannot be obtained, we may procure the balance by a change in the colours themselves; thus, if the surfaces to be coloured should give too much yellow, we should make the red more crimson and the blue more purple...i.e. we should take the yellow out of them; so if the surfaces give too much blue, we should make the yellow more orange and the red more scarlet.[81]
>
> The points arising in this proposition are illustrated by a diagram (Fig. II.6).

Since the object must be to make A advance, yellow must be put there both for its position and for its form; in contrast the moulding C should be blue as the retiring colour and to assist the impression of concavity. Red, the most positive of all colours, looks best in shadow; we therefore place it at B; the fillets, or vertical planes at D we make white, as useful in separating the colours from harsh contrast. Circumstances could lead to the positions of the colours yellow and blue being subject to modification but Jones stressed that he found the law most useful when applied to red. He remarked that 'red never looks well when seen in a strong light, it is too positive and painful to the eye; on the contrary, in soffites, in hollows, or depths of any kind it looks most brilliant.'[82]

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[78] JONES: 'Colour in the Decorative Arts': p.22
[79] Christopher Dresser made similar observations about Indian fabrics in 'Principles of Design' VII published in *The TechnicalEducator*, 1870-72, p. 230. 'See the true Indian fabrics and observe the manner in which small portions of intense reds, blues, yellows, greens and a score of tertiary tints, are combined with white and black and gold to produce a very miracle bloom'.
[80] JONES: 'Colour in the Decorative Arts': p. 23
[81] JONES: 'Colour in the Decorative Arts': p.25
[82] JONES: 'Colour in the Decorative Arts': p.26

Jones reminded his audience 'in the Great Exhibition, you may remember the alarm which was caused by my painting the undersides of the girders red; but I think you will see by this diagram [see below] that they could have been of no other colour.'[83]

Proposition Twenty [Proposition IX in the lecture] is drawn from Jones's observations at the Alhambra 'the various colours should be so blended that the objects coloured, when viewed at a distance, should present a neutralised bloom.'[84] In this Principle Jones seems to have qualified his axiom on the proportional use of colour defined in Propositions Sixteen, Seventeen and Eighteen [numbers V, VI and VII in the lecture] to recommend that colours 'should be so interwoven that no one colour should attract the eye to the exclusion of the others; when viewed at a distance they should melt into one another.'[85]

Proposition Twenty-One [No. X] is concerned with the avoidance of colour discords 'No composition can ever be perfect in which any one of the three primary colours is wanting, either in its natural state or in combination.'[86] A combination of blue and yellow, red and yellow, or red and blue would be discords; a combination of green and yellow, purple and blue, or orange and red would also be discords. These discords could however be resolved 'by the interpositions of the neutrals white or black, which contain all colours in the positive and negative state.'[87] Also they could be 'harmonised by the interposition of metallic gold.'[88]

The four propositions which followed were derived by Jones from the 'law of simultaneous contrast of colours' published by M.E. Chevreul in 1839,[89] and were concerned with the effect produced by the juxtaposition of colours. Chevreul had

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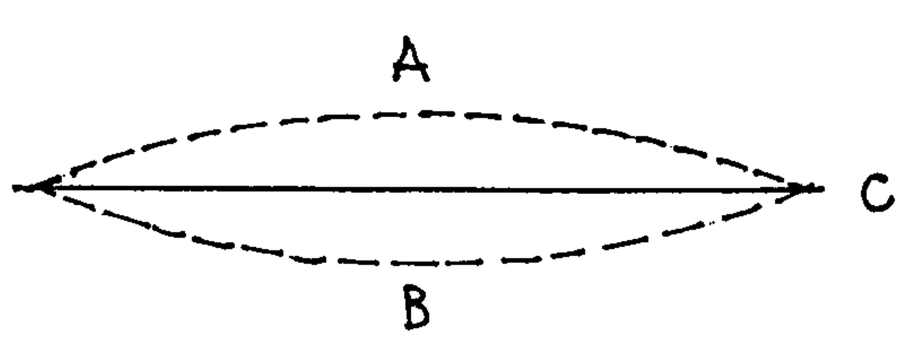
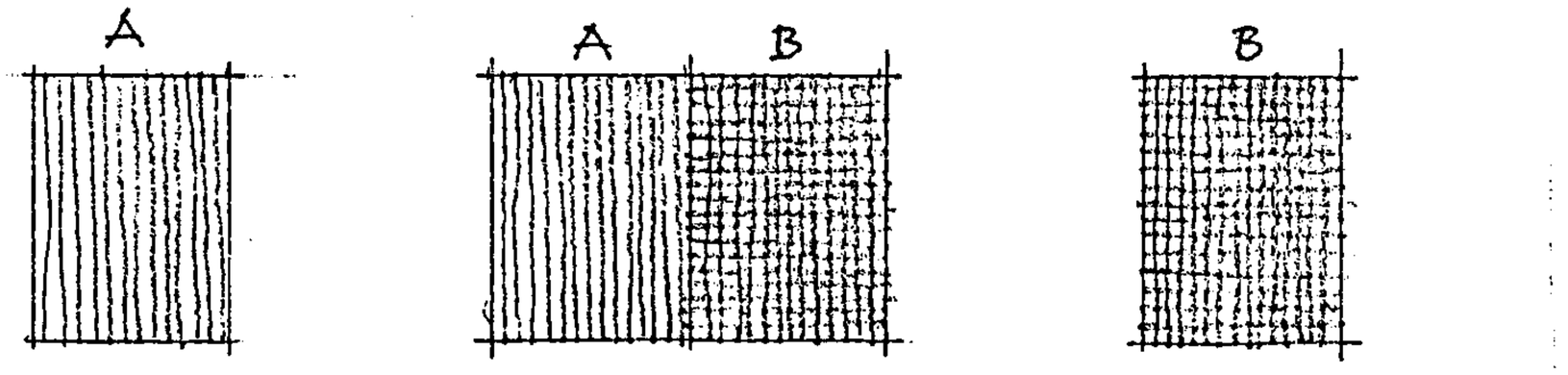
[83] JONES: 'Colour in the Decorative Arts': p.26
[84] JONES: 'Colour in the Decorative Arts': p.27
[85] JONES: 'Colour in the Decorative Arts': p.27
[86] JONES: 'Colour in the Decorative Arts': p.28
[87] JONES: 'Colour in the Decorative Arts': p.28
[88] JONES: 'Colour in the Decorative Arts': p.28
[89] CHEVREUL: p.27



determined that there were two types of contrast 'the one, contrast of tone, or the modification which each colour suffers in intensity; the other contrast of colour, or the modification which each colour suffers in hue.'[90]

Jones explained that contrasts occur because each pigment reflects the coloured rays appropriate for its colour, together with white rays and some rays of its complement; so that a red body not only reflected a large quantity of red rays, it also reflected white rays and some green rays. This led to the conclusion that each colour is modified by the presence of another colour. The first of these propositions [Proposition Twenty-two, No. XI] concerned contrast of tone and is demonstrated by the diagram below. 'When two tones of the same colour are juxtaposed, the light colour will appear lighter, and the dark colour darker.'[91]



A by itself will appear darker than A where it joins B. B is lighter by itself than B where it joins A.

Jones pointed out that the reason for this is that the light colour reflects more white rays than the darker one; when the two are placed side by side, A appears lighter and B appears darker than when these colours are seen on their own. He also drew

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[90] JONES: 'Colour in the Decorative Arts': p.28
[91] JONES: 'Colour in the Decorative Arts': p.29

attention to the fact that the effect is strongest at the edge where the two colours meet but that it diminished away from it.

Proposition Twenty-three [No. XII] was concerned with both contrast of tone and with contrast of hue. 'When two different colours are juxtaposed they receive a double modification, - first as to their tone (the lighter colour appearing lighter and the dark colour appearing darker); secondly, as to their hue, each will become tinged with the complementary colour of the other'.[92] Following the diagram above the two rectangles marked A are coloured pale red and the two marked B are of dark blue: the result is that the pale red appears paler, and becomes tinged with orange, while the dark blue appears darker and slightly tinged with green.

The next two Propositions are concerned with the effect of backgrounds. In Proposition Twenty-four [No. XIII] Jones noted that 'Colours on white grounds appear darker; on black grounds, lighter.'[93] This is explained by the fact that 'white by its superior force extinguishes the white rays reflected by the colour, and we see the colour purer - as black reflects but few white rays, the white rays reflected by the colour appear more prominent by contrast and the colour appears lighter.'[94]

Proposition Twenty-five [No. XIV] noted that 'black grounds suffer when opposed to colours which give a luminous complementary'.[95] The reason for this is that 'as light colours have dark complementaries, the dark added to the black increase its brilliancy; those, on the contrary, which have light complementaries, must diminish its intensity.'[96] If, for example, orange is put on a black ground it adds blue to the black, making it more intense, while if blue is put on a black ground it adds orange to the black destroying its brilliancy.

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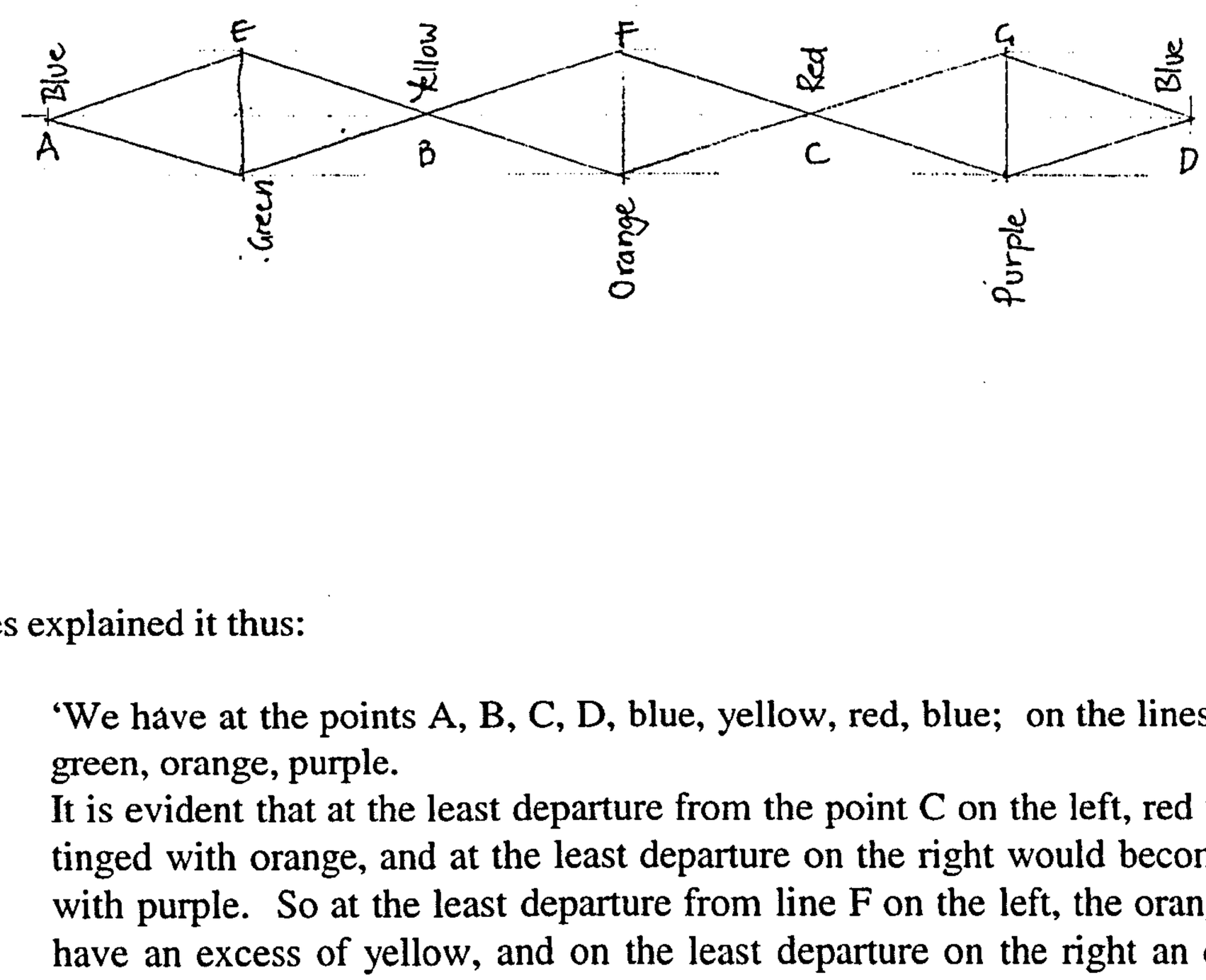
[92] JONES: 'Colour in the Decorative Arts': p.30
[93] JONES: 'Colour in the Decorative Arts': p.30
[94] JONES: 'Colour in the Decorative Arts': p.30
[95] JONES: 'Colour in the Decorative Arts': p.31
[96] JONES: 'Colour in the Decorative Arts': p.31

Jones emphasised the importance of this law 'to anyone engaged in any way with the employment of colour, as any colour can be subdued or heightened in effect by juxtaposition.'[97] This led him to remark that 'colours are mere relative terms; they change at every instant: that which appears deep red when compared with a still deeper red.'[98] To make his point more graphically, he produced another diagram:



Jones explained it thus:

> 'We have at the points A, B, C, D, blue, yellow, red, blue; on the lines E, F, G, green, orange, purple.
> It is evident that at the least departure from the point C on the left, red would be tinged with orange, and at the least departure on the right would become tinged with purple. So at the least departure from line F on the left, the orange would have an excess of yellow, and on the least departure on the right an excess of red, so that we can no more see red or orange than we can see a point or a line; and even if we could see them it would only be for an instant, as the

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[97] JONES: 'Colour in the Decorative Arts': p.31. See also GOMBRICH, ERNST (1979): *A Sense of Order: A Study in the Psychology of Decorative Art* (London: Phaidon) p.250. Gombrich points out that the juxtaposition of shapes and colours plays us some strange and unexpected tricks, these being known as optical illusions. To illustrate his point he provides the following example (Fig. II.7) termed the 'spreading effect'. 'Only two colours are used, one tone of red and one of blue. If they look different in combination with different patterns of black and white, this is due to their mutual influence, which no one claims to understand completely. We obviously do not see the ground in isolation: we see the whole pattern as one and attribute its total brightness or darkness to its elements. There is only one way of convincing ourselves that it is only the proximity of white which makes for the impression of a brighter background while the proximity of black casts a shadow over its surroundings. We must follow with the eye the stripes of colour that lead from the gloomy part to the bright region. There is no break.'
[98] JONES: 'Colour in the Decorative Arts': p. 31

complementary rays reflected from them would gradually lower their tone: so of all the other colours.'[99]

Here Jones used a graphic illustration provided by Chevreul: in the case of

'a shopkeeper exhibiting to a customer a number of pieces of red silk one after the other, of the same colour, those shown last would invariably appear more feeble in colour than the first. A shopkeeper, wise in his generation, should, after showing one or two pieces of red silk, interpose a silk of another colour - green for instance - to restore the judgement of the eye.'[100]

These four propositions were followed by further ones designed to provide an understanding of the harmonious effects of juxtaposed colour and were based upon his studies of oriental works, and which he remarked 'may be seen in great perfection on the textile fabrics of the Indian collection purchased by the Government.'[101]

Proposition Twenty-six [No. XV] prescribed that

'When ornaments in a colour are on a ground of contrasting colour, the ornament should be separated from the ground by an edging of a lighter colour, as a red flower on a green ground should have an edging of lighter red.'[102]

This principle dealt with the avoidance of indistinctness between colours, and was based on the law of contrast. If the eye is confronted with contrasting colours, each suggesting the complementary colour of the other there is a tendency for them to fuse together at the edges. 'To confine the eye, therefore, within the ornament, it is necessary to define the form, and this is well effected by the outline of the lighter colour.'[103]

Proposition Twenty-seven [No. XVI] dealt with the problem of colour imposed on a gold ground. 'When ornaments in a colour are on a gold ground, the ornaments should be separated from the ground by an edging of a darker colour.'[104] The reason for this is that 'the gold ground from its greater power, has a tendency to invade or overflow

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[99] JONES: 'Colour in the Decorative Arts': p.32
[100] JONES: 'Colour in the Decorative Arts': p.32
[101] JONES: 'Colour in the Decorative Arts': p.32
[102] JONES: 'Colour in the Decorative Arts': p.33
[103] JONES: 'Colour in the Decorative Arts': p.33
[104] JONES: 'Colour in the Decorative Arts': p.33

on to the coloured ornament, and this is at once arrested by the darker edging.'[105] For the same kind of reason Proposition Twenty-eight [No. XVII] stipulated that 'gold ornaments on any coloured ground should be outlined with black.'[106] This is necessary because of 'the tendency of the gold to overrun the ground, which is arrested by the black line; and as gold must be regarded as a neutral, it is best effected by the neutral black.'[107]

Proposition Twenty-nine [No. XVIII] noted that 'Ornaments of any colour may be separated from grounds of any other colour by edgings of white, gold or black.'[108] It was noted that

> 'the white by its superior force extinguishes the white rays reflected by the colour, and we see the colour purer - as black reflects but few white rays, the white rays reflected by the colour appear more prominent by contrast, and the colour appears lighter.'[109]

By similar reasoning Proposition Thirty [No. XIX] stated that 'Ornaments in any colour, or in gold, may be used on white or black grounds without outline or edging.'[110]

In this case,

> 'The white ground reflecting all the rays, destroys by its superior intensity the white rays reflected by the coloured body, and its form becomes perfectly defined. The black ground absorbs all the rays, or reflects but very feebly white rays, so as to scarcely modify the colour juxtaposed.'[111]

Proposition Thirty-one [No. XX] dwelt on a related theme.

> 'In "self-tints", tones or shades of the same colour, or of the same hue, a light tint on a dark ground may be used without outline; but a dark ornament on a light ground requires to be outlined with still a darker tint.'[112]

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[105] JONES: 'Colour in the Decorative Arts': p.33
[106] JONES: 'Colour in the Decorative Arts': p.33
[107] JONES: 'Colour in the Decorative Arts': p.34
[108] JONES: 'Colour in the Decorative Arts': p.34
[109] JONES: 'Colour in the Decorative Arts': p.34
[110] JONES: 'Colour in the Decorative Arts': p.34
[111] JONES: 'Colour in the Decorative Arts': p.34
[112] JONES: 'Colour in the Decorative Arts': p.35

From observations Jones had noticed that light tints advanced, separating themselves from the ground, whereas dark tints seemed to 'pierce through' the ground if there was no darker edging, and it was these observations which gave rise to this proposition. Jones's study of relief ornament at the Alhambra led him to conclude that it did not require the interposition of white or any other colour to define the ornament since the light edging on one side, and the shadow on the other, prevented simultaneous contrast. He further maintained that metallic gold could be used on grounds of any other colour without this problem occurring.

These propositions on colour were combined with the other principles and included as an appendix to the Catalogue of the Museum of Ornamental Art. They were regarded as being of so much importance that they were printed in a separate pamphlet and distributed to all the students attending the Government Schools of Design.[113] As early as 1838 the Government had called for 'a work which should at once contain all the best acknowledged examples of ornamental design, in various branches; and also specimens, as far as they can be approved of newly invented combinations and original designs of ornament[114] to be made available to Schools of Design. Publications with similar objectives had already been commissioned by the German and Austrian governments in 1830 and 1831[115] respectively, and so there was nothing original about the concept of government support for producing a work to give guidance on the design of ornament for designers and craftsmen in the field of building and industry.

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[113] FLORES: p.198

[114] *The Drawing Book: Minutes of the Council of the Government School of Design from December 1836 to April 1844,* Vol. 1, (London: 1849) p.428, quoted by FLORES, p. 225

[115] The earliest government-commissioned collection of designs for industry was produced by Peter Beuth in 1830. This work, commissioned by the German government, was entitled *Forbilder für Fabrikanten und Handwerker* (Examples of manufacturers and craftsmen) and contained information on designs for furniture and interiors by the architect Karl Friedrich Schinkel (1781-1841). The Austrian government appointed Johan William Zahn to prepare *Ornamente aller Klassischen Kunstepochen* (Ornaments for all classical epochs). DURANT, STUART (1986): *Ornament: A Survey of Decoration since 1830* (London: MacDonald).p.12

It was not until 1850 that the Government School of Design made a decision about proceeding with a British publication, the person chosen for this work being Ludwig Grüner (1802-1882),[116] art advisor to Prince Albert. This work, entitled *Specimens of Ornamental Art selected from the best models of the Classical epochs* selected its examples from a wide variety of Pompeian, Roman, medieval and Cinquecento designs and this was criticised by the teachers in the Schools of Design principally because Pompeian ornament was associated with a period of degenerate morality and, therefore, not a style to be recommended for influencing young British designers.

As a result Henry Cole brought pressure to bear on Jones to produce a book on ornamental design which would illustrate the examples of historical ornament displayed in the Museum of Ornamental Design and represent the principles of design already being advocated in the catalogue for the School of Design. These pressures bore fruit and, with the aid of a number of collaborators, Jones finally produced the first edition of his book *The Grammar of Ornament* in 1856. This first edition was an imperial folio containing a preface, Jones's theory of ornament, one hundred chromolithographed plates of a thousand examples of ornament, and twenty essays. (Figs. II. 8 & 9).[117] In the Preface Jones set out the underlying intentions behind production of the work, with a few introductory comments. His first concern was that the examples might be used for the purposes of copying:

> '...in forming the collection which I have ventured to call the *Grammar of Ornament*, [my intention] has been to select a few of the most prominent types in certain styles closely connected with each other, and in which certain general laws appeared to reign independently of the individual peculiarities of each. I have ventured to hope that, in thus bringing into immediate juxtaposition the

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[116] Ludwig Grüner, from Dresden, advised Prince Albert on art matters from 1841 to 1856. Beginning as an architectural historian, he became an expert on northern Italian terracotta and ornamental art with books to his credit which he dedicated to Prince Albert and the Princess Royal. He advised on the interior decoration of Osborne House, Isle of Wight and designed the Royal Mausoleum at Frogmore, Windsor in 1862. See WEINTRAUB, S. (1997): *Albert: uncrowned King* (London: John Murray) p.69

[117] FLORES: p. 227

many forms of beauty which every style of ornament presents, I might aid in arresting that unfortunate tendency of our time to be content with copying, whilst the fashion lasts, the forms peculiar to any bygone age.'[118]

He explained further that he had endeavoured to establish certain main facts, these being:

'First. That whenever any style of ornament commands universal admiration, it will always be found to be in accordance with the laws which regulate the distribution of form in nature.
Secondly. That however varied the manifestations in accordance with these laws, the leading ideas on which they are based are very few.
Thirdly. That the modifications and developments which have taken place from one style to another have been caused by a sudden throwing off of some fixed trammel, which set thought free for a time, till the new idea, like the old, became again fixed, to give birth in turn to fresh inventions.
Lastly. I have endeavoured to show, in the twentieth chapter, that the future progress of Ornamental Art may be best secured by engrafting on the experience of the past the knowledge we may obtain by a return to Nature for fresh inspiration. To attempt to build up theories of art, or to form a style, independently of the past, would be an act of supreme folly. It would be at once to reject the experiences and accumulated knowledge of thousands of years. On the contrary, we should regard as our inheritance all the successful labours of the past, not blindly following them, but employing them simply as guides to find a true path.'[119]

Acknowledgements to his colleagues for their contributions in forming the collection of ornament discussed and illustrated in the publication and for individual essays, followed. Those mentioned were: J. Bonomi (Egyptian), James Wild (Egyptian and Arabian), T.T. Bury (Stained Glass), C.J. Richardson (Eizabethan), J.B. Waring (Elizabethan and Byzantine), J.O. Westwood (Celtic), C. Dresser (Plate showing geometrical arrangement of natural flowers), M. Digby Wyatt (Renaissance and Italian).

This preface was immediately followed by 'GENERAL PRINCIPLES IN THE ARRANGEMENT OF FORM AND COLOUR, IN ARCHITECTURE AND THE DECORATIVE ARTS, WHICH ARE ADVOCATED THROUGHOUT THIS WORK'.

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[118] JONES: *Grammar*: Preface p.1
[119] JONES: *Grammar*: Preface p. 2

The twenty-one propositions on colour were essentially the same as those which had been set out in the catalogue for the School of Design and had been advocated in the lectures 'The True and the False in the Decorative Arts' and in 'An Attempt to Define the Principles which should Regulate the Employment of Colour in the Decorative Arts', discussed above. The only addition to these was Proposition Twenty-eight, 'Colours should never be allowed to impinge upon each other'.

From the outset *The Grammar of Ornament* was recognised in Britain and abroad as a work of considerable significance and the principles which were advocated in it received much greater exposure as a result of its success.[120] Shortly after its publication Jones was invited to give a lecture at the Royal Institute of British Architects which he entitled 'On the Leading Principles in the Composition of Ornament of Every Period',[121] in which he advanced the principles contained in *The Grammar*. Extracts from this lecture were printed in two following numbers of *The Builder*.[122]

From the outset *The Grammar* was to be enormously successful and had an immediate following, not only in Britain, but in other English speaking parts of the world. It later was published in the United States and, as a result of being translated into French and German,[123] it went into the collections of many libraries in Europe as well. It has been subsequently reprinted to this day and recently has been published in compact disc form.[124] As an encyclopaedia it was the inspiration for several similar works, the principal ones being *L'Ornement Polychrome* published by Albert Charles

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[120] See GRAY, NICOLETTE (1937): 'Prophets of the Modern Movement', p.49 and PEVSNER, NIKOLAUS (1937): 'Christopher Dresser, Industrial Designer', pp.183-6, both in *Architectural Review*, Vol. 81/2, 1937

[121] Read at the Royal Institute of British Architects, 15 December 1856

[122] *Builder,The* (1856): Vol.XIV (20 December), pp. 682-4 and Vol.XIV (27 December), pp. 694-6

[123] DURANT, STUART (1986): *Ornament: A Survey of Decoration since 1830* (London: Macdonald), p.15 (hereafter referenced as DURANT)

[124] The text and plates, taken from the 1868 edition have been produced in compact disc form by Direct Imagination Inc. Pasadena, California. See FLORES: p.229

Auguste Racinet in 1869 and *Ornamentenschatz* by H. Dolmetsch, published in Germany in 1889.[125]

While *The Grammar* may be seen to have had a widespread general influence through its extensive readership, it is, however, the extent to which Jones's theories on colour may be seen to have had any enduring effect on his contemporaries which is of principal importance for this study.

In Britain the designer who most openly acknowledged the influence of Jones's theories was Christopher Dresser, his colleague at the Marlborough House School of Design. The credit which he gives in his book *Ornamental Art*[126] is an instance of this:

> 'the propositions of Mr Owen Jones...are of sterling worth, as they contain a development of the exalted powers of the masterly mind who originated them.[127]

For the most part Dresser tended to repeat rather than develop Jones's colour theories but as an exception to this we find an interesting proposal by him for decorating a sequence of three rooms connected by open archways so that the colouring of the wallpapers creates Jones's concept of a 'neutralised bloom'.

> 'Imagine three rooms, all connected by open archways, and all decorated with a thousand flower-like ornaments, and these so coloured in this mingled manner, that in one room blue predominates, in another red, and in another yellow; we should then have a beautiful tertiary in each - a subtle mingling of colour, an exquisite delicacy and refinement of treatment, a fullness such as always results from a rich mingling of hues, and an amount of detail which would interest when closely inspected. Besides which we should have the harmony of the general effect of the three rooms, the one appearing as olive, another as citrine and the other as russet.'[128]

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[125] DURANT: p.15

[126] DRESSER, CHRISTOPHER (1862): *Ornamental Art. Development of Ornamental Art in the International Exhibition,* (London: Day & Son) pp. 17-32 (referenced hereafter as DRESSER: *Ornamental Art*)

[127] DRESSER: *Ornamental Art,* p.32

[128] DRESSER, CHRISTOPHER (1873): *Principles of Decorative Design* (London: Cassell, Petter and Galpin/facsimile Academy Editions 1973), p. 47. (I am grateful to Dr Ian Bristow for drawing my attention to this publication).

Ian Bristow has pointed out[129] that the effect which Dresser was advocating may be seen in an American watercolour for an 'aesthetic' design of the 1880s, in which frieze and filling each possess a balanced tertiary bloom.

During the second half of the nineteenth century there were great opportunities in the United States, Canada and Australia for British trained decorators at a time of rapid expansion and increased prosperity in those countries. One such decorator, Jacob Wrey Mould (1825-86), who had trained with Jones in London, set up in business as a decorator in New York in 1852[130]. In Mould's style of decoration, which employed bright polychromatic effects (the results of which were enthusiastically received by the New Yorkers), we are able to see the direct influence of Jones at work. More commonly, however, his influence was felt in less direct ways. While there was growing interest in home decoration not many households, either in Britain or other parts of the English speaking world, could afford to employ a decorator and this led to demand for books which provided guidance on the subject. Publications such as *The Technical Educator* (1870-72) [131] and Ellis A. Davidson's *Practical Manual of House Painting* (1875)[132] fulfilled such a need. In this latter publication Davidson provides a section on 'the principles of decorative art' which are based on the propositions of 'the late Mr Owen Jones'.[133]

The concise manner in which Jones's and Dresser's theories on colour were presented made them peculiarly adaptable to tradesman's manuals. Ideas which could be presented by means of sketches and simple notes had the advantage of being understood by people with low literacy standards and who might have had some

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[129] BRISTOW, IAN (2000): 'Colour Theory in the mid 19th Century', in AIRS, MALCOLM ed. *The Victorian Great House*, (Oxford: Oxford University Department for Continuing Education), p. 104

[130] ELLESMORE, DONALD (1993): 'Nineteenth Century Painted Decorations in Britain and Australia', unpublished PhD thesis, University of York, p.308

[131] *The Technical Educator* refers to the technical series of 'Cassells popular educator'.

[132] DAVIDSON, ELLIS M. (1875): *Practical Manual of House Painting, Graining, Marbling and Sign Writing* (London: Lockwood) (referenced hereafter as DAVIDSON)

difficulty in coping with the publications mentioned above. Thus the manuals had the effect of introducing these ideas to a wider public.

The Principles put into practice

During his lifetime Owen Jones's considerable reputation as a practising colourist and decorator, as against him being a theorist, seems to have been largely created by the interior decoration of the Crystal Palace and other projects in which he was able to exploit the principles of optical colour fusion so as to produce an atmosphere of warm sunlight, or what he referred to as 'a neutralised bloom'. Other schemes which made use of these techniques followed in due course. For instance at the Crystal Palace Bazaar, off Oxford Street (1858), Jones again set out to create the sensations of a 'bloom' in the way he had at the Crystal Palace, but this time it was done by more direct means. A double layer ceiling was constructed in which the lower layer was made up of glass triangles of red, yellow and blue in Field's harmonic proportions, gas lights were suspended between the two layers so that at night the stores would be illuminated by a white light in the same way as in day time.[134] This system was also used at Osler's Glassware store in Oxford Street, London the same year (1858); the watercolour which was produced to show the effect still exists and from this we can judge the kind of ambience which was intended (Fig. II.10). In both these stores Jones's intention was that a chromatic 'bloom' should pervade the space and would contribute towards the display of goods: at the Bazaar it would permit the textile colours to be judged more correctly, while at Osler's light would make the glass sparkle.[135]

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[133] DAVIDSON: pp.226-235
[134] FLORES: pp.284-5
[135] FLORES: p.289

Shortly before these two schemes were carried out Jones had been responsible for the design of a large new concert hall near Piccadilly, known as St James's Hall, in which colour played an important part in the concept of the design. In the main concert hall the decoration and lighting of the ceiling played an important part in creating an atmosphere of airiness and light. The semi-circular vault of the ceiling was formed of diagonal ribs of fibrous plaster which intersected each other to form eighty lozenge-shaped panels. These panels were then further sub-divided by lesser ribs creating smaller lozenges. The colour scheme which Jones used for this ceiling employed the primary colours in conjunction with white, and followed his principles concerning the way they should be distributed in order to produce a feeling of harmony. The grounds of the large lozenges were painted blue showing off complex abstract shapes in a subdued white. Smaller decorative panels were then placed at the intersections of the lesser ribs, filled with gilded ornament of 'Alhambra' character against a red ground.[136]

The lighting of this ceiling was by means of small star-shaped gaseliers suspended by slender tubes from the intersections of the main ribs of the vault. The effect of the lighting in combination with the colours and gilding of the ceiling was described by the *Illustrated London News*:

> 'its effect is to give the light which streams from innumerable burners hung from the vaulted roof, the clearness and mildness of the light of day.'[137]

These three schemes, which have been described in detail by Carol Flores in her dissertation 'Owen Jones, Architect' and in Michael Darby's dissertation 'Owen Jones and the Eastern Ideal' are illustrative therefore of Jones's principles as they relate to optical colour fusion. In spite of the interest and approval which they received from the contemporary press there is no evidence, however, to suggest that Jones's ideas

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[136] *Building News, The* (1858): Vol.IV (19 March), p.290
[137] *Illustrated London News* (1858): Vol. XXXII, (3 April), p.343

concerning the use of colour in these schemes were closely followed and employed by his architectural colleagues.

Another facet of Jones's work which amply demonstrates the use of his principles on colour concerns his involvement with designs for tiling and mosaic pavements. During 1842 Jones produced a book entitled *Designs for Mosaic and Tessellated Pavements*[138] on behalf of John Blashfield, a partner in the firm of Messrs Wyatt, Parker and Co, manufacturers of cement, scagliola and mosaic pavements. Blashfield had recently acquired the patent rights to manufacture mosaic tesserae by a process which had been developed by Richard Prosser in 1840 and so Owen Jones's book was produced as a way of giving publicity to Blashfield and his company's new product. Prosser had discovered that if the material of porcelain (a mixture of flint and fine clay) was reduced to a dry powder and in that state heavily compressed it could be converted into a solid compact substance of great hardness and density, which was ideal for mosaic pavements. It had the further advantage that it could be made in many different permanent colours. For his book Jones produced ten chromolithograph plates of designs for mosaic patterns, which were not intended as models but as studies to demonstrate the principles of design. As Jones commented,

> 'In these designs it has been sought rather to give specimens of different forms and methods by which diversities of patterns may be obtained than particular examples to be followed.'[139]

The patterns themselves owe their origin to a mixture of classical and Islamic motifs. In each case they are of abstract design and rely on combinations of simple uniform geometric shapes. At this early stage Jones was already intrigued by the way colour could be varied with pattern to produce different effects. In regard to Plate IX he observed,

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[138] JONES, OWEN (1842): *Designs for Mosaic and Tessellated Pavements* (London: John Weale) (referenced hereafter as JONES: *Mosaic Pavements*)

> 'An endless variety of patterns may be produced by changing the colours only, the arrangement of the pieces remaining the same.'[140]

and in regard to Plate X,

> 'the most diversified effects may be produced by varying the colours of the tesserae without altering their relative position.'[141]

Although the patterns in these plates were derived from classical and Islamic sources they are notably modern in concept for 1842 being abstract in design and not conveying anything of the symbolism which would have been a feature of designs by A.W.N. Pugin, for instance, at this time. During the 1850s Jones prepared a large number of designs for mosaic pavements which were never published. These designs, all abstract in concept and employing the same colours of blue, dark red and yellow, together with black and white, demonstrate the endless opportunities for variation in pattern which are available even when using a basic set of colours and geometrical shapes (Figs. II.11, 12 & 13). Some of these designs, which were never published but are held together in a set by the Victoria and Albert Museum[142] are likely to have been the basis for paving schemes at St James's Hall, the Crystal Palace Bazaar[143] and Ostler's Glassware store (Fig. II.10).

In spite of the extensive amount of work carried out during his lifetime very few of Owen Jones's executed decorative schemes have survived to the present day. Likewise the small number of drawings which are available for inspection must only represent a fraction of his total output. We are therefore at a disadvantage today when we try to assess the extent to which he put his principles into practice. In recent years, however, three schemes, which are well authenticated as being his work, have been carefully restored and are therefore valuable as evidence of how his ideas could be made

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[139] JONES: *Mosaic Pavements,* Notes to plates I to X
[140] JONES: *Mosaic Pavements*, Notes to plate IX
[141] JONES: *Mosaic Pavements*, Notes to plate X
[142] V&A P&D Dept., Folio A207, pressmark 93.H.31
[143] FLORES: p.288

to work in practice. These three schemes, together with a group of drawings for schemes which were subsequently demolished, or never executed, are discussed below.

St Bartholomew's Church, Sutton Waldron, Dorset (Figs. II. 14 & 15)

The church, which is in the Middle Pointed style, was built in 1847 to the designs of George Alexander. It seems likely that the rector (and patron) who was a Tractarian, was responsible for commissioning the decorative colour scheme of the church's interior from Owen Jones and this was carried out shortly after construction of the church had been completed. The decorative painting and Gothic script tracts have recently been restored to their original colours as a result of receiving a series of grants over fifteen years from English Heritage. The principal distinguishing features of the scheme are the use of strong primary colours, red, yellow and blue, and script used in an ornamental form. Jones's *Principle Fourteen*: 'Colour is used to assist in the development of form, and to distinguish objects or parts of objects one from another' is very much in evidence in the scheme. The form of the chancel arch is emphasised in three ways through the use of colour, pattern and decorative script. The mouldings of the arch are picked out, either by means of solid primary colour (dark blue, red and gold) or by repetitive pattern, each motif in itself being drawn in primary colours.

Similarly, the forms of the arch to the East window and the arches to openings within the chancel walls are assisted by means of colour against a background wall colour of bright red. By using primary colours with white and black on the underside of the chancel vault ribs they are made to stand out within the gloom of the upper space. The principle that colours should never be allowed to impinge on each other (*Principle Twenty-eight*) is well displayed by the use of colour and ornament in the chancel vault (Fig.II.15). There is no blurring between the colours, each together with its shape being well defined. While Field's Chromatic equivalents are not an appropriate measure of harmony in this case the hues of the primary colours are well balanced and produce a harmonious effect, rich and lively but in no way vulgar. The chancel receives a low

level of natural lighting and even with artificial lighting the colours are not seen as brightly as Fig. II.15 suggests, this photograph having been taken by flash.

The arches and column capitals of the nave have also been painted but in more subdued fashion. Again, the form of the arch and capital is emphasised by contrasting the colours of the mouldings, pale blue and cream being the principal colours, blue appearing on concave mouldings, gold being used only for two of the convex mouldings and for the corbelled impost to the extrados of the arch; red is limited to the impost ornament.

Christ Church, Streatham, London (Figs. II.16, 17 & 18)

The decorative scheme for the interior of James Wild's Christ Church was not carried out until ten years after its original construction, there being insufficient funds to afford them at that time. For many years the original decorations have been obscured by post-war decorations carried out following bomb damage in 1940, but a full-scale restoration of the church's interior was completed in July 1997. This was based on residual paint and scrapes of the original paintwork carried out by Ian C. Bristow in 1996. The colour and ornament of the restored interior closely follows Owen Jones's original scheme carried out in 1851.[144]

Within the body of the church the main structural elements are emphasised by contrasts in flat colour, thus the nave arcade columns are painted in dull lilac, while the arches are in a light grey; the colonnettes to the gallery arcade are a dark green (in imitation of patinated bronze) and the arches above are in the same colour as the nave arcade; likewise the chancel arch. The spandrels between the arches and arcade walling is painted a mid-grey. Within this area enrichment of the colour scheme consists of

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[144] BRISTOW, IAN C. (1996): Christ Church, Streatham, 'Report on an investigation of paint samples from the interior'

gilding to the abacus and fillet of each gallery colonnette; the ornament of the capitals to the nave column and chancel arch piers is more elaborate with decorative motifs picked out in dark red, gold and slate blue against a buff ground. Here a fan motif picked out in gold, red and blue ingeniously assists the transition in form between the curvature of the column and the square abacus. The remainder of the capital's surface is covered with gilded foliate pattern. The narrow convex moulding between capital and abacus is picked out in dark red. The faces of the abacus have a repetitive motif in red and slate blue on a buff ground.

Not all of the decorative scheme which Jones designed for the apse of Christ Church has been preserved, the lower part which incorporates three mosaic murals, having superseded Jones's work about sixty years after the church was decorated. It is only that part of the apse from the band of text upwards which is therefore of interest to this study.

Above the text the semi-circular shape of the apse is covered with a smooth semi-domed ceiling; while at gallery level the semi-circle is punctuated by nine tall round-headed windows, now glazed with modern stained glass. The apse of Christ Church and the sanctuary of St Bartholomew's appear to have nothing in common and it is all the more interesting to see therefore in which ways Jones's principles of design have been observed.

Principle Eight, 'All ornament should be based upon a geometrical construction' provides the basis of the design with the nine windows dividing the semi-circle into equal segments for repetitive design motifs. *Principle Seven*, 'The general forms being first cared for, these should be subdivided and ornamented by general lines; the interstices may then be filled in with ornament, which may again be subdivided and enriched for close inspection', clearly applies to the decoration of the surface. Between the window heads and the crown of the vault lie a sequence of linked forms, or motifs -

multiple zig-zag in primary colours, semi-circular banding, acanthus ornament, stylised cross, pendants, inverted spearhead, zig-zag, etc. Between these, the interstices are thin black 'branches' and leaves drawn over a burnished gold background. Throughout this sequence of motifs 'colour is used to assist in the development of form, and to distinguish objects or parts of objects one from another'.

Between the window heads and the canopy of the vault gold predominates, a feature which gives the design its oriental (or certainly Byzantine) appearance so that Jones's principles concerning the consideration of oriental practice come into effect. It is noticeable that all the various motifs set against the gold background follow *Principle Thirty* in that the reds and blues are separated from the ground by an edging of a darker colour.

Jones's design for the apse at Christ Church therefore provides a good example of his principles being put into practice. Ultimately, however, the visible harmony and repose which the scheme displays has still relied upon a good balance between the tones and shades and hues of the primary colours used, and it is this factor (referred to in *Principle Eighteen*, as modified by *Twenty-one* and *Nineteen*) which cannot be adequately quantified.

16 Carlton House Terrace, London (Figs. II. 19 & 20)

At 16 Carlton House Terrace, Jones created a suite of lavishly decorated interiors between 1863 and 1866 for the entrepreneur Sir Samuel Peto. Jones had already designed the interior of Peto's house in Kensington Palace Gardens but in the case of Carlton House Terrace it appears that the interiors are actually the choice of Alfred Morrison, who acquired the lease in 1866.[145] These interiors were restored in 1988-89

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[145] *Carlton House Terrace, London: A Short Introduction to the History and Notable Interiors* (London: The Crown Estate, 1996)

and great care was taken to replicate the original colours and features as far as possible, although some compromises had to be made to allow for modern usage. These restorations were reviewed in the *Architects' Journal* and *Country Life* shortly after the work had been completed. In the *Architects' Journal* Dan Cruickshank remarked that the principles embodied in *The Grammar of Ornament* could be seen to have been employed:

> 'Colour is used to assist light and shade, helping the undulations of form by the proper distribution of the several colours...No composition can ever be perfect in which any one of the three primary colours is wanting...Beauty of form is produced by the lines growing out from the other in gradual undulations...All junctions of curved lines with curved or of curved lines with straight should be tangential to each other.'[146]

In *Country Life* John Cornforth observed that the restoration was a valuable resource 'to those trying to understand Victorian theories of colour in architecture and decoration.'[147]

As one looks at the ceilings in the two rooms illustrated, the conference room and an office on the first floor, one of Jones's axioms comes to mind: 'Construction should be decorated. Decoration should never be constructed (that which is beautiful is true; that which is true must be beautiful)'. Beautiful as they are it is difficult to believe that these ornate ceilings, any more than others at Carlton House Terrace which were inspired by the Alhambra, follow this principle.[148] And if this is true of the ceilings, it is equally difficult to see how some of his principles concerning the use of colour apply to these interiors.

Much of the colour used in the surface of the ceilings, cornices and decorative friezes is so small in scale that the eye does not take in individual colours but reads them as part of a generally lustrous finish, predominantly gold on one ceiling, predominantly

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[146] CRUICKSHANK, DAN (1989): 'Exercise in Ornament', *Architects Journal*, Vol.189 (29 March), pp.24-9

[147] CORNFORTH, JOHN (1989): 'Arabian Nights in the Mall', *Country Life*, Vol.183/20, (18 May), p.249

brown or bronze in another. It is perhaps more akin to producing a neutral 'bloom' in effect on an infinitely smaller scale than the Crystal Palace. Lines of solid red and gold are, however, used in the geometric shapes of some ceilings in order to complement and enhance the form (*Principle Fourteen*). In fact, much of the colour in the rooms comes from the fabric wall coverings and the furnishings, rather than from any painted decoration and because of this the interiors at 16 Carlton House Terrace are far less rewarding for showing Jones's principles at work than the two churches.

[148] It is not clear from Cornforth's article whether the geometrical shapes were produced by means of fibrous plaster or by making up wooden permanent moulds into which plaster was cast but the ribs were certainly not structural.

Drawings for Projects and Executed Works which have not survived

(Figs.II.21-26)

Comparatively few of Jones's drawings executed in colour have survived to give us a graphic guide to the way his ideas on the use of colour were being applied to projects. The Victoria and Albert Museum possess a collection of design proposals which were presented to them by J.D. Crace which include an undated group of ceiling designs for the Oriental Court at the South Kensington Museum, probably executed in the late 1850s. In addition, there are several contemporary designs which explore similar themes. The three designs for the Oriental Court (Figs. II. 22 & 24) make an interesting comparison. Each to a greater or lesser degree is based upon geometrical construction (*Principle Eight*), each has used primary colours to define the different motifs of the design, and each has carefully contrasted the colours so they do not impinge on each other (*Principle Twenty-eight*). The same could be said about the other two designs (Figs. II. 21 & 23). But what we cannot say (in the structural sense) is that in any of these designs 'colour is used to assist in the development of form, and to distinguish objects or parts of objects one from another' (*Principle Fourteen*), or that 'Colour is used to assist light and shade, helping the undulations of form by the proper distribution of the several colours' (*Principle Fifteen*). Also, these designs are using the primary colours in a very different context to the way they were used on the pendentives of the ceilings in the Alhambra, or for that matter to the way Jones had used the primary colours for the structure of the Crystal Palace. What seems to have happened is that by the time Jones was preparing these designs he was using primary colours and motifs of Islamic origin as the basis for surface architectural decoration. This is no longer the architectural polychromy which had fired his imagination at the Alhambra.

Between 1871 and 1874 Jones became responsible for the major alteration and renovation of Eynsham Hall, Oxfordshire for James Mason.[149] This work also involved the decoration of the interiors and designs for new furniture. Unfortunately, this house was almost completely demolished by a subsequent owner and practically nothing survives of Jones's original building. We are fortunate, however, that coloured drawings of the interiors prepared by Jones have survived and are now in the possession of Reading University.[150] As will be seen in these drawings (Figs. II.25 & 26), particularly those of the drawing room, music room and card room, Jones's penchant for using primary colours as the basis of his design has remained. Another drawing (not illustrated) showed Jones's proposals for Mrs Mason's boudoir with a colour scheme in which lavender, blue and white were the key colours.

This scheme lends support to a belief that in the closing stages of his career (and Eynsham Hall was his last major project), Jones had little opportunity to put his ideas on architectural polychromy into practice in the way they had been at the Crystal Palace and instead his skills as a colourist were employed in more conventional interior design work.

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[149] FLORES: pp.326-332

[150] I am grateful to Michael Bott, Archivist, Reading University library, for giving me the opportunity to study and photograph these drawings.

Conclusions

This chapter commenced by quoting from Lewis F. Day's article in the magazine *The Art Journal* and it seems appropriate in conclusion to return to further remarks which he made about Jones in the same passage. In acknowledging that Jones's influence as a theorist was 'immense' Day remarks:

> 'His *Grammar of Ornament* marks a point, and a turning-point in the history of English ornament. The "principles" he enunciated were not such as one can endorse en masse at this date [1887] - there were many of them not principles at all: the title is too pompous and pretentious altogether. It would be nearer the mark (however irreverent) to call them "tips", and as such they were of immense value to manufacturers, decorators, and designers, who were floundering in the depths of degradation in which he found the minor arts of design...'[151]

In spite of Lewis F. Day's reservations about whether the term 'principle' was too weighty a term for some of Jones's propositions the fact remains that he was the only English architect, or writer on the subject of architecture to put forward a consistent and systematic theory of architectural colour during his lifetime. From the time it was first published the *Grammar of Ornament* was destined for considerable success. Not only did it have a wide circulation after it first appeared, it has been reprinted subsequently up to the present time. The format in which it was produced, with extensive use of illustrations to complement and amplify the text, was regarded as so successful that others copied it. It has to be added, though, that one of the reasons for its continuing success is the very one that Jones was fearful of - that it would provide a source for the copying of ornament. The evidence of research does, however, support Day's contention that Jones's principles would be of considerable value to manufacturers, decorators and designers. As a result of the wide circulation of books and manuals which had adopted his principles, sometimes abroad in the United States and Australia as well as in Britain, his theories on the use of colour in ornament were

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[151] DAY: p.187

given wide exposure. There seems to be no doubt therefore Day's remark that Jones was very influential as a theorist is quite correct.

This study is concerned with the narrow field of architectural polychromy rather than decorative painting and it has to be asked, to what extent were Jones's principles developed specifically in regard to architecture? The answer to this seems to be clear; few, if any of the principles in regard to colour were evolved with architecture only in mind. On the contrary, they were intended to assist a wide range of students and design practitioners working generally in the fields of the decorative arts and the purpose was to help them, by simplified means, to understand the axioms which lay behind the best of ornamental art. It is as well to remind ourselves of the distinction between polychromy and surface decoration given in the Introduction to this thesis. Polychromy is defined in regard to architecture as usually referring to situations where colours are contrasted to emphasise the structural or ornamental features of a building or in connection with symbolic features, as in the case of sculptural elements in ancient Greek or Egyptian buildings. Jones seems, however, to have gone beyond the confines of this definition by showing that the practice of architectural colour could be founded purely in the human perception of colours. In doing so he thus paved the way for a much more modern and scientific approach to architectural colour which is based upon perception by the eye and mind. In this respect his ideas marked a radical departure from the Gothic revival notion of colour as something symbolic, a subject which will be discussed later in Chapter IV.

In his executed architectural work there are three distinctly different aspects to Jones's use of colour. The first concerns that technique most easily understood as optical colour fusion, which was first demonstrated at the Crystal Palace and later used in the Crystal Palace Bazaar, St James' Hall and Osler's Glassware store. The principles upon which this form of polychromy was based were informed by Field's

theories concerning the proportions by which harmony in colouring is produced and are contained in Jones's propositions *Eighteen* to *Twenty-three*. In spite of the interest which was shown in these schemes and their underlying principles Jones's ideas concerning the use of optical colour fusion do not seem to have attracted a following in his profession.

The second aspect of polychromy which we see appearing in Jones's executed work is what may be called decorative polychromy and is represented by his schemes at St Bartholomew's, Sutton Waldron and 16 Carlton House Terrace. At St Bartholomew's, the earlier of the two schemes (1847) we find primary colours being used in the sanctuary and in the treatment of the chancel arch in a way which clearly follows *Proposition Fourteen* (colour is used to assist in the development of form and to distinguish objects or parts of objects one from another). At Carlton House Terrace (1863-1866) on the ceiling of the Conference Room we can still see Jones's principles at work, particularly in regard to the use of optical colour mixing to produce a tertiary bloom (*Proposition Twenty-two*: The various colours should be so blended that the objects coloured, when viewed at a distance, should present a neutralised bloom). But we seem to have moved a long way from *Proposition Fourteen* and the concept of using colour to assist in the development of form. It might be added that the exotic Moresque forms of the ceiling in the Conference Room seemed to have been contrived for decorative purposes and in doing so have overlooked *Proposition Five* (Construction should be decorated, Decoration should never be constructed).

In the three designs for the ceiling of the Oriental Court, South Kensington Museum and his Stella design for a ceiling, we find Jones moving further away from architectural polychromy and more towards two-dimensional surface decoration. The inventiveness has gone and he is relying much more on simply copying the Moresque

ornament which he admired. These latter designs go some way to explain Lewis Day's criticism of Jones's output as an artist:

> 'Owen Jones was not, if the truth must be told, the great colourist he was reputed to be. He had mastered the theory of Alhambresque colour combination, but he was never safe with a flat tint, where theory was of less avail...He was facile and eminently graceful but his personal bias towards a Moresque form of ornament...with which the British public could not be expected to have much sympathy, prevented his founding anything like a school.'[152]

While Lewis F. Day's judgement may be correct in regard to two dimensional surface decoration the same cannot be said about the third form of polychromy used by Jones, that which is represented by his studies for tiling. In these studies, the first of which appeared in his 1842 book *Designs for Mosaic and Tessellated Pavements* and was followed later in the 1850s by his unpublished designs, now held by the Victoria and Albert Museum, we can find models for later practitioners of permanent polychromy. These studies showed how the visual characteristics of the three primary colours (blue recedes, yellow advances, red the colour of the middle distance) could be combined to give an illusion of modelling to an otherwise flat surface. They also show how these effects could be obtained from rudimentary primary colours created by natural clays. In these designs for tiling patterns we find, therefore, a practical demonstration of a modern system of architectural colouring, abstract in design, free from symbolism and owing nothing to any historical style.

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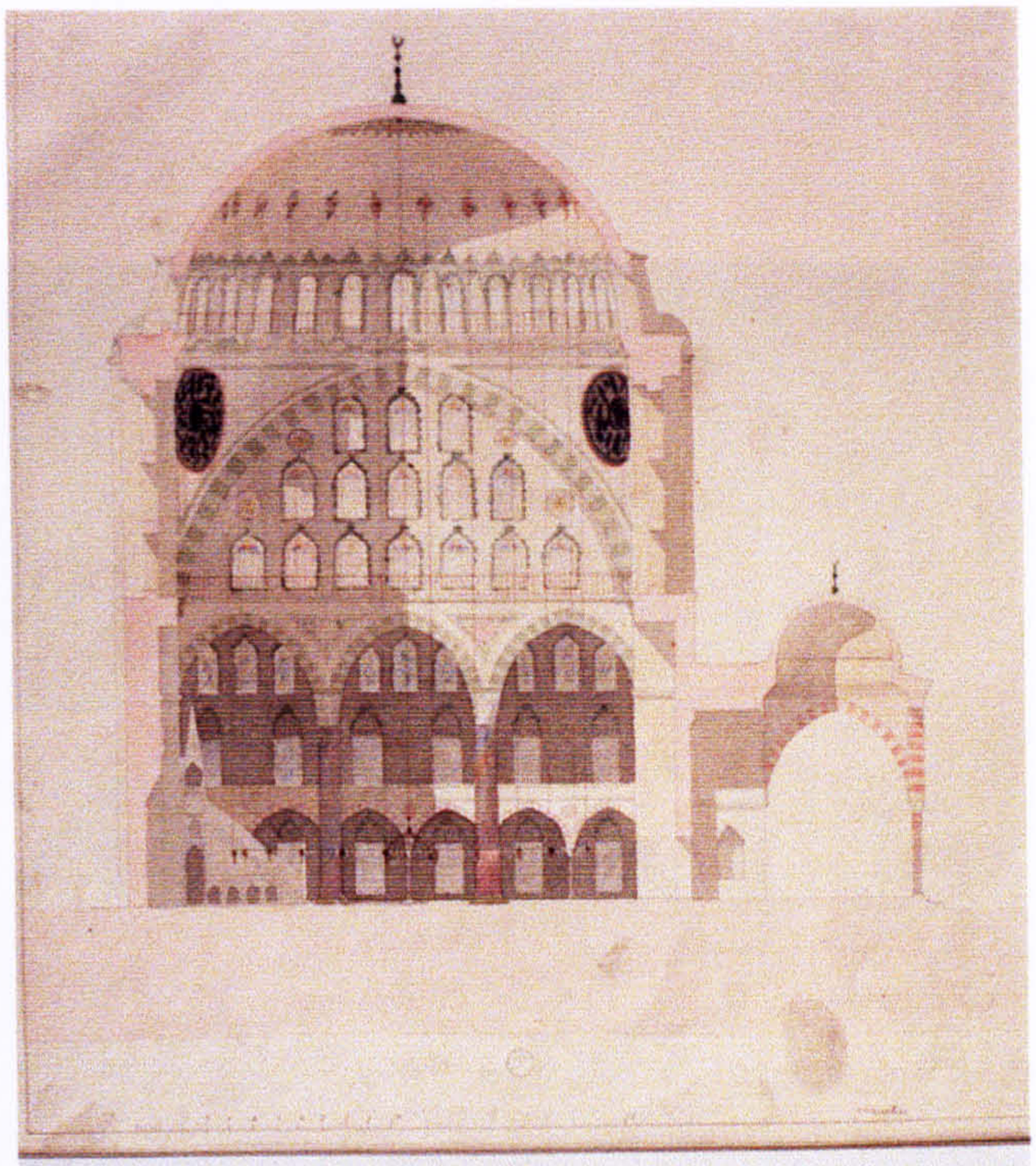
[152] DAY: p.187



MIHRIMAH DJAMI, CONSTANTINOPLE
SECTION
OWEN JONES
1809 - 1874

Fig. II. 1 Section: the Mihrimah Djami, Istanbul

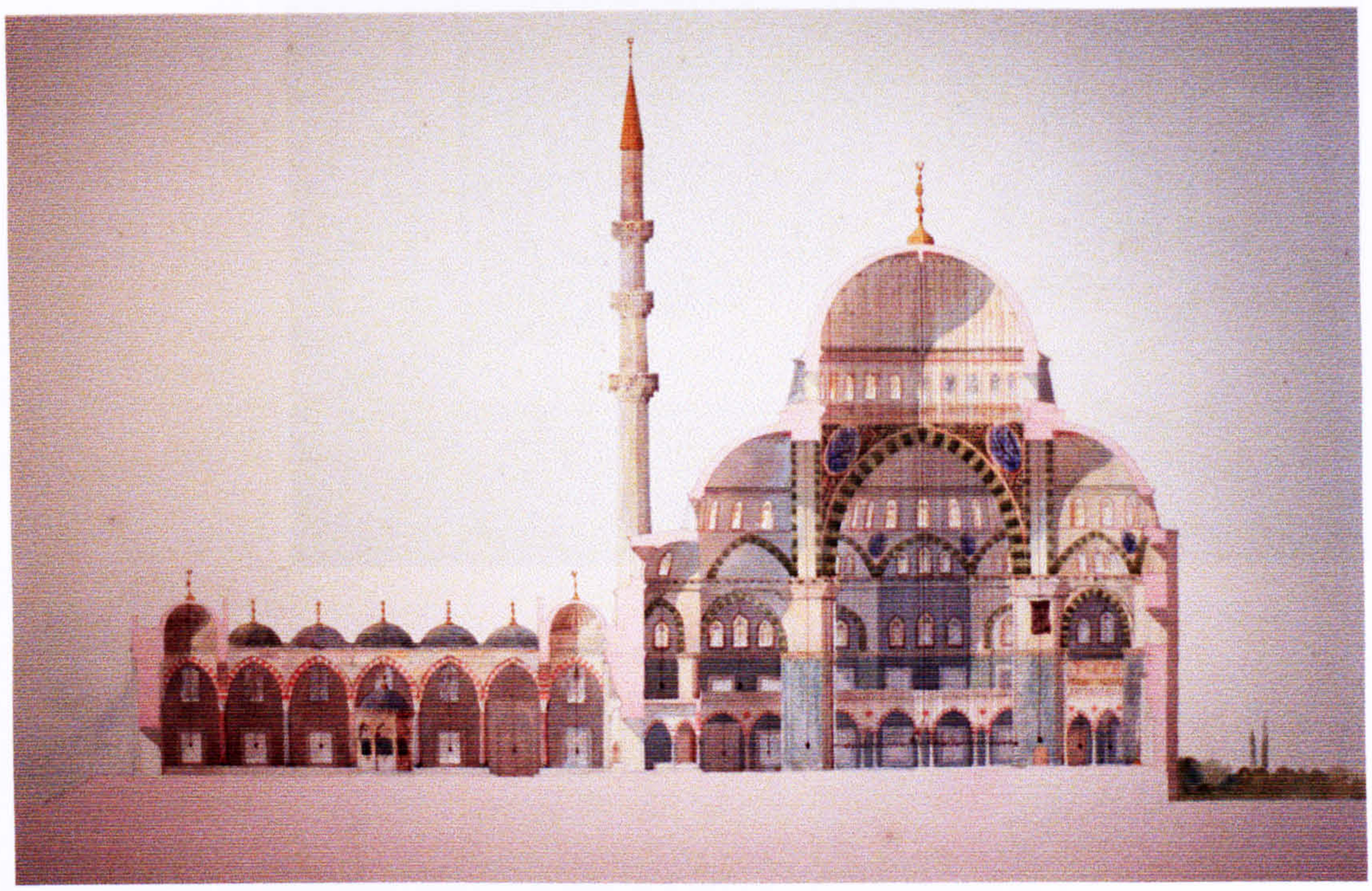


Fig. II.2 Section: the tomb of Soliman 1, Istanbul

Fig. II.3 Niche with pendentif ceiling – Plate IX from *The Alhambra*

Fig. II.4 Watercolour interior of the Crystal Palace with simulated bright conditions

Fig.II.5 Watercolour interior of the Crystal Palace with simulated dull conditions

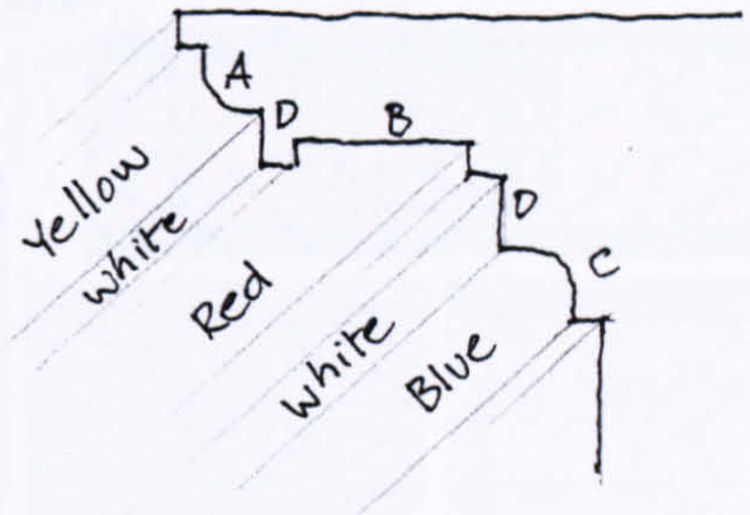


Fig. II.6 Diagram illustrating proposition 19 in the catalogue to the Museum of ornamental art

Fig. II.7 The Von Bezold 'spreading effect', from Ernst Gombrich's *A Sense of Order*

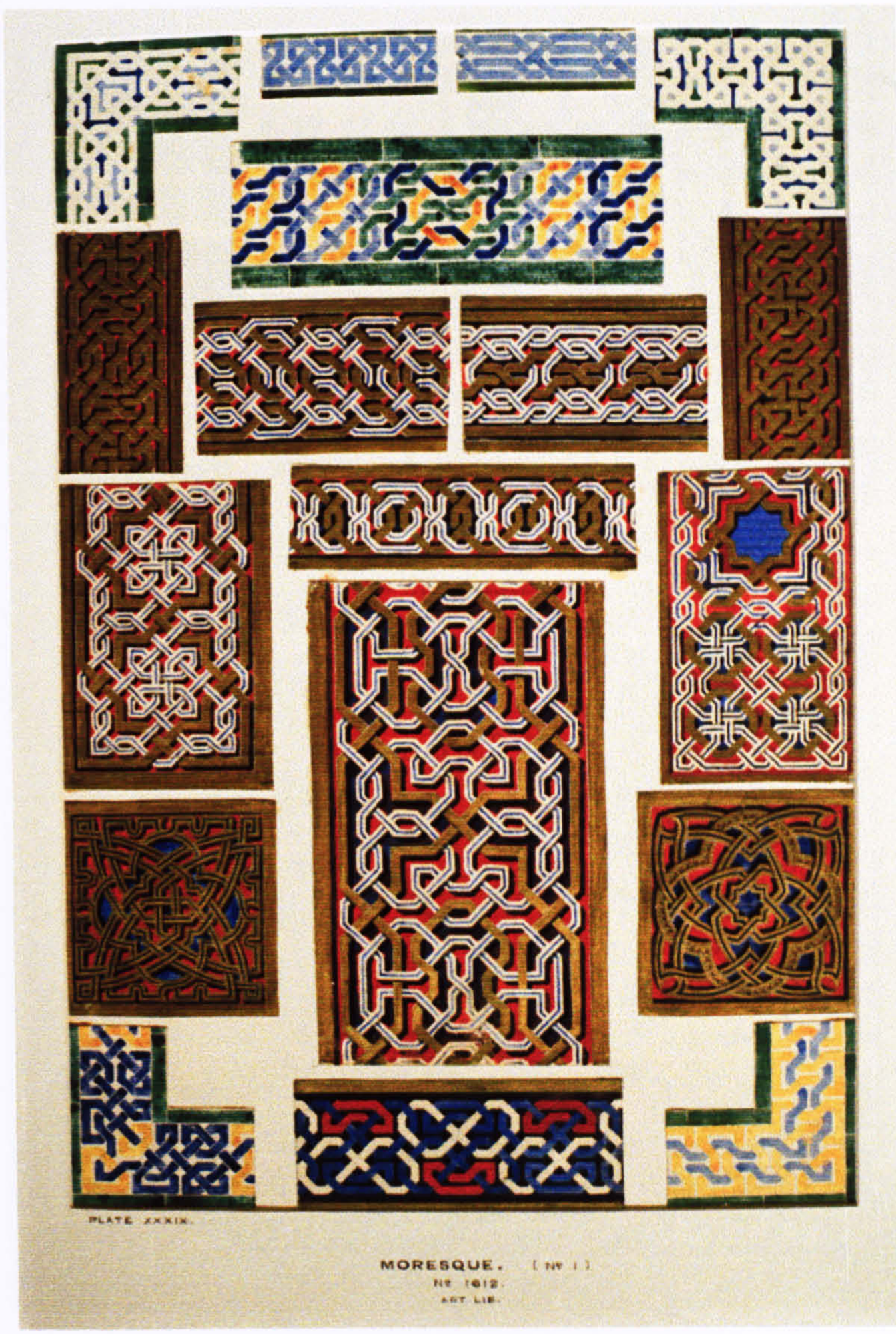


Fig. II.8 Photograph of original plate (plate XXXIX) from The Grammar of Ornament

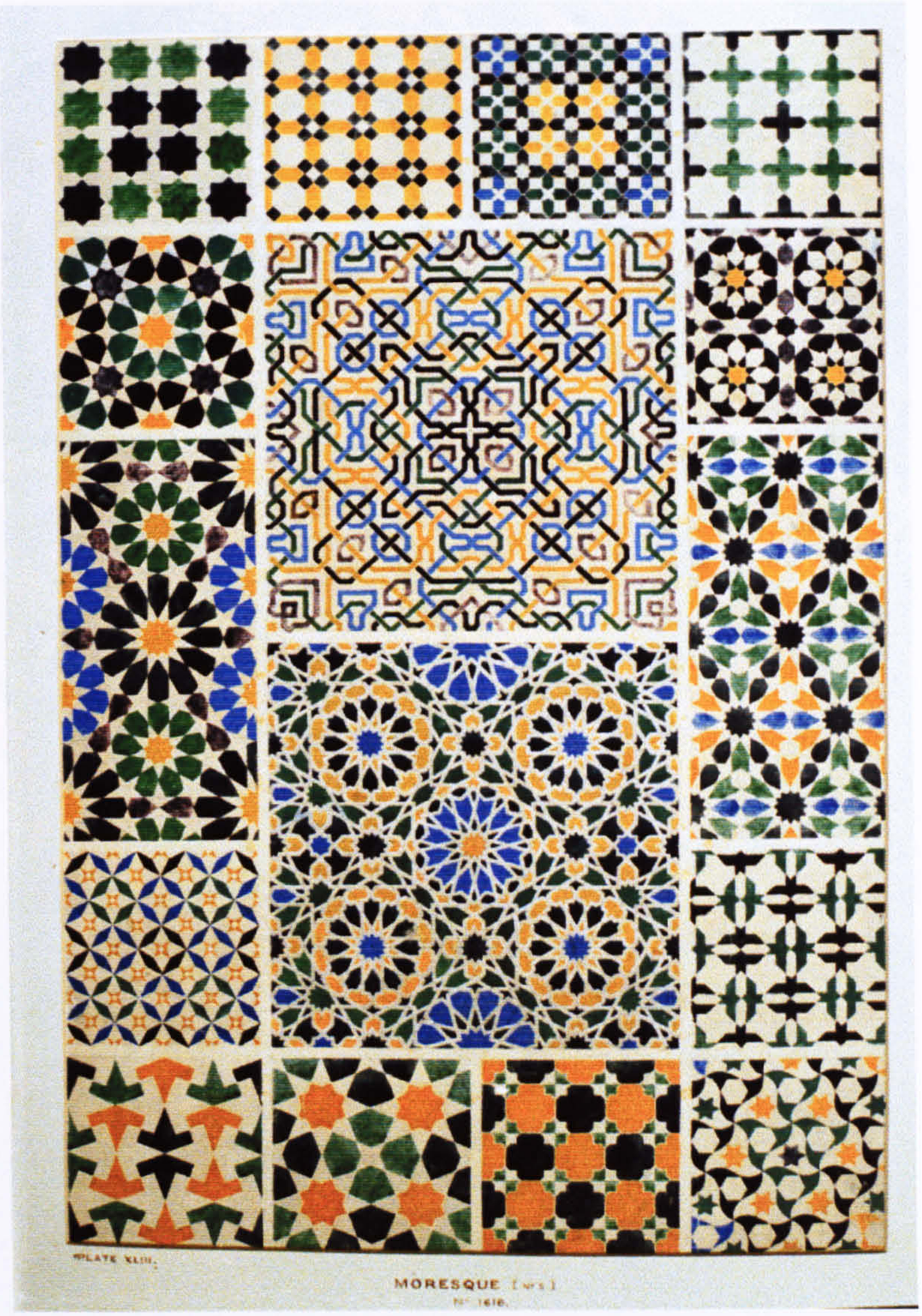


Fig. II.9 Photograph of original plate (plate XLIII) from *The Grammar of Ornament*

Fig. II.10 Watercolour: Osler's glassware store, London

Fig. II.11 Design for polychrome floor tiling (1)

Fig. II. 12 Design for polychrome floor tiling (2)

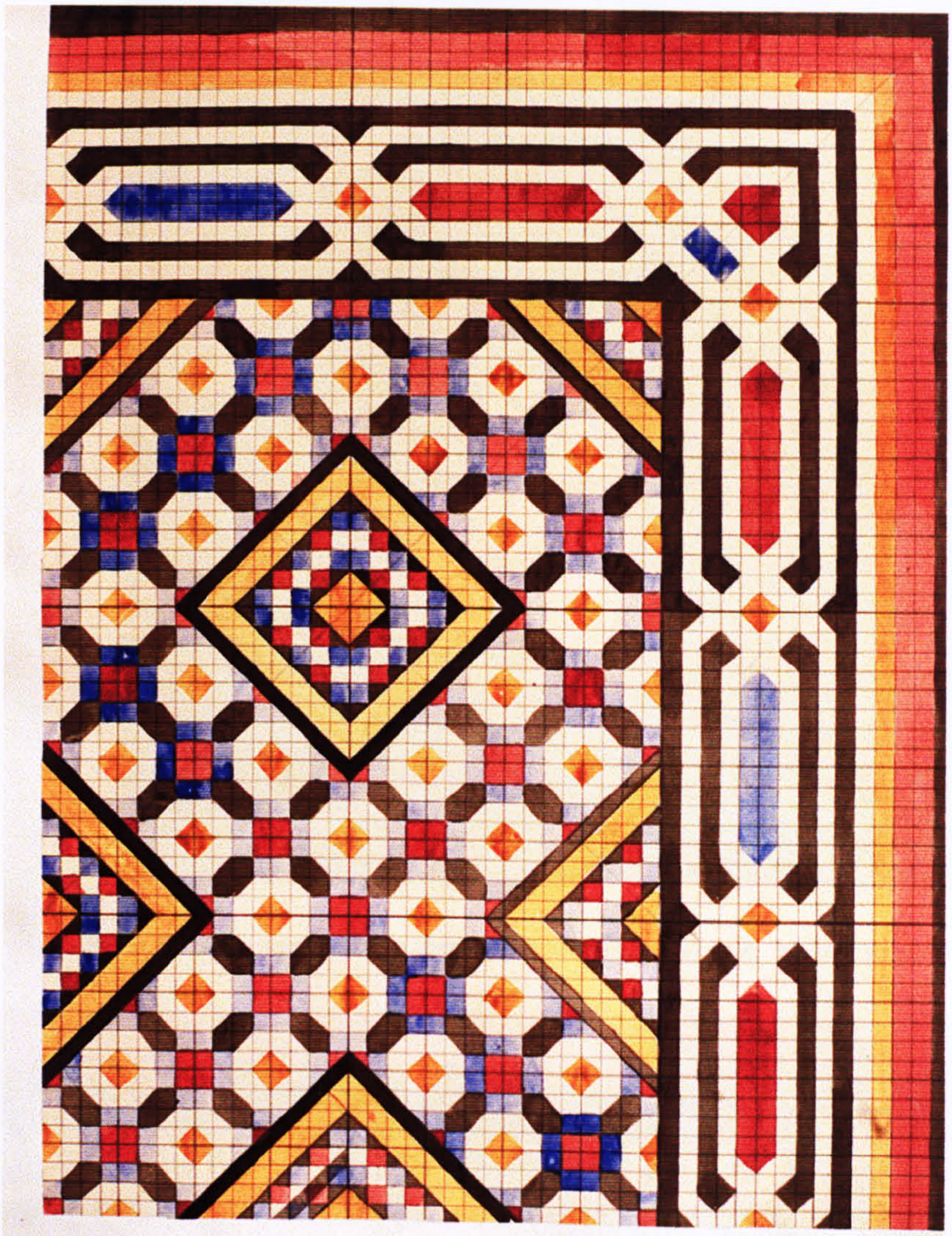


Fig. II.13 Design for polychrome floor tiling (3)

Fig.II.14 St Bartholomew's Church, Sutton Waldron, Dorset: view of sanctuary

Fig.II.15 St Bartholomew's Church, Sutton Waldron, Dorset: painted decoration of sanctuary beams

Fig. II. 16 Christ Church, Streatham, London: interior view towards chancel

Fig. II.17 Christ Church, Streatham, London: decoration of column capitals

Fig. II.18 Christ Church, Streatham, London: decoration of sanctuary ceiling

Fig. II.19 16 Carlton House Terrace, London: the conference room

Fig. II.20 16 Carlton House Terrace, London: ceiling of first floor office

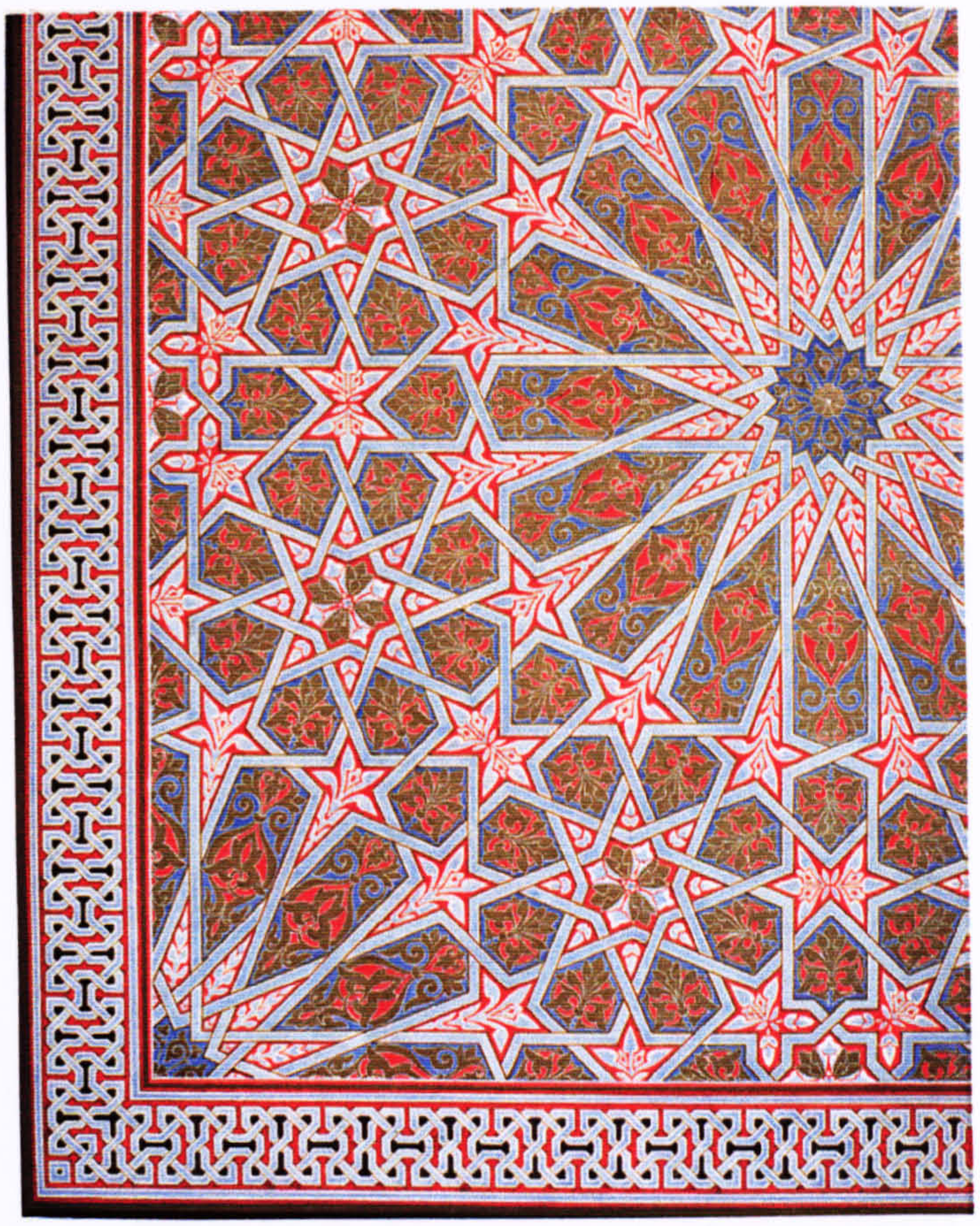


Fig.II.21 Stella design for ceiling decoration

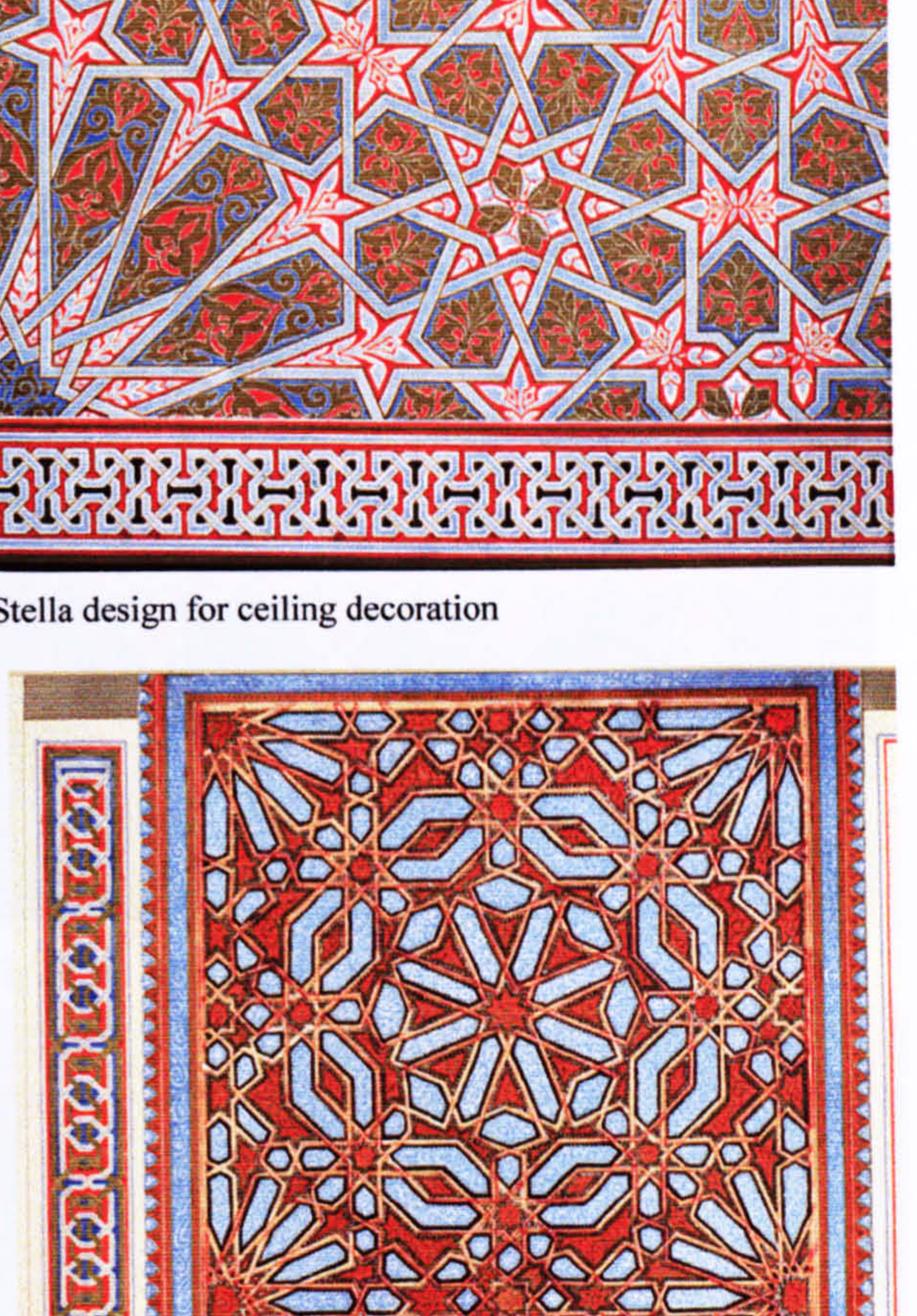


Fig. II.22 Ceiling design for the Oriental Court, South Kensington Museum

Fig. II.23 Ceiling design with red crosses

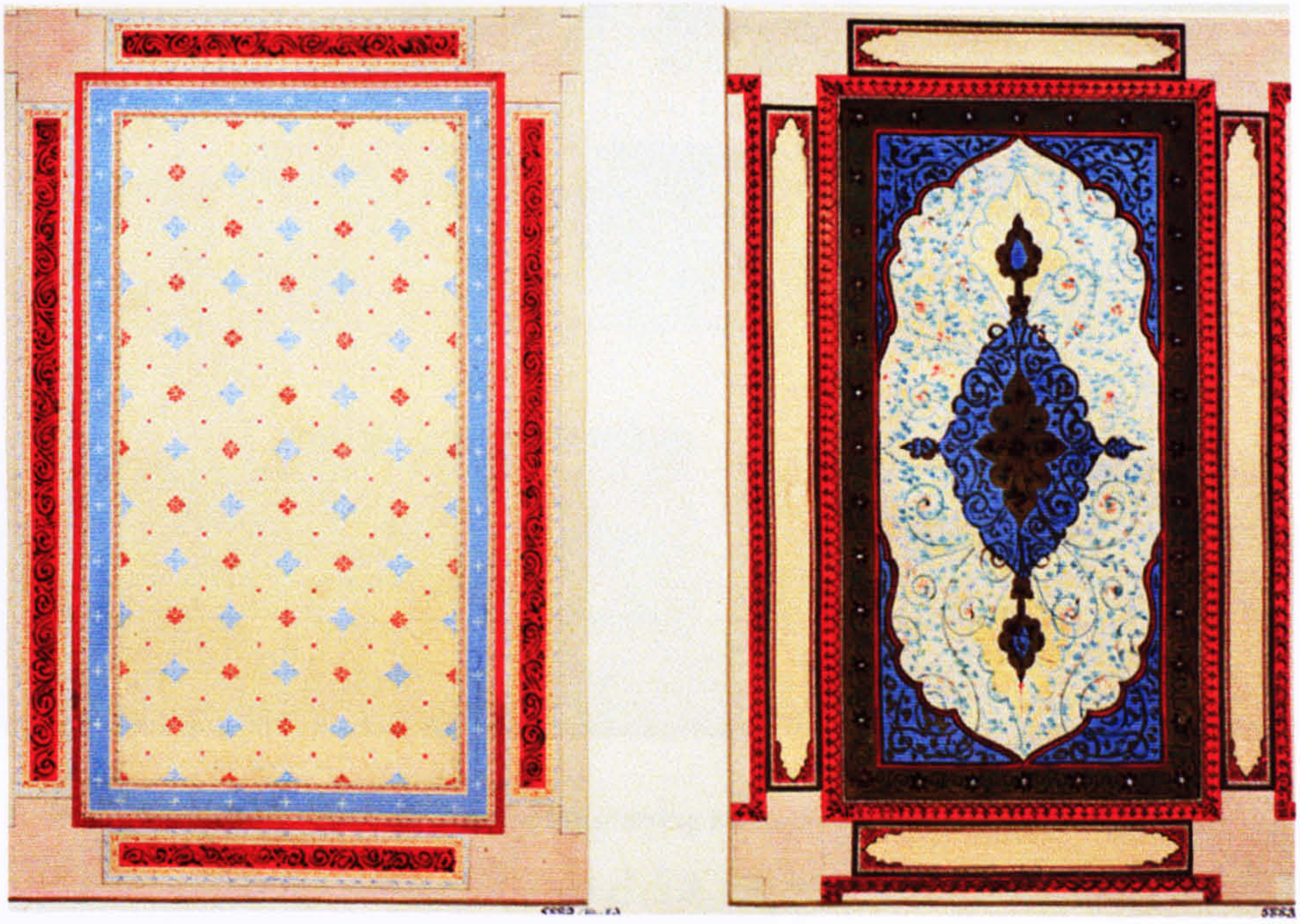


Fig. II.24 Designs for the ceiling of the Oriental Court, South Kensington Museum

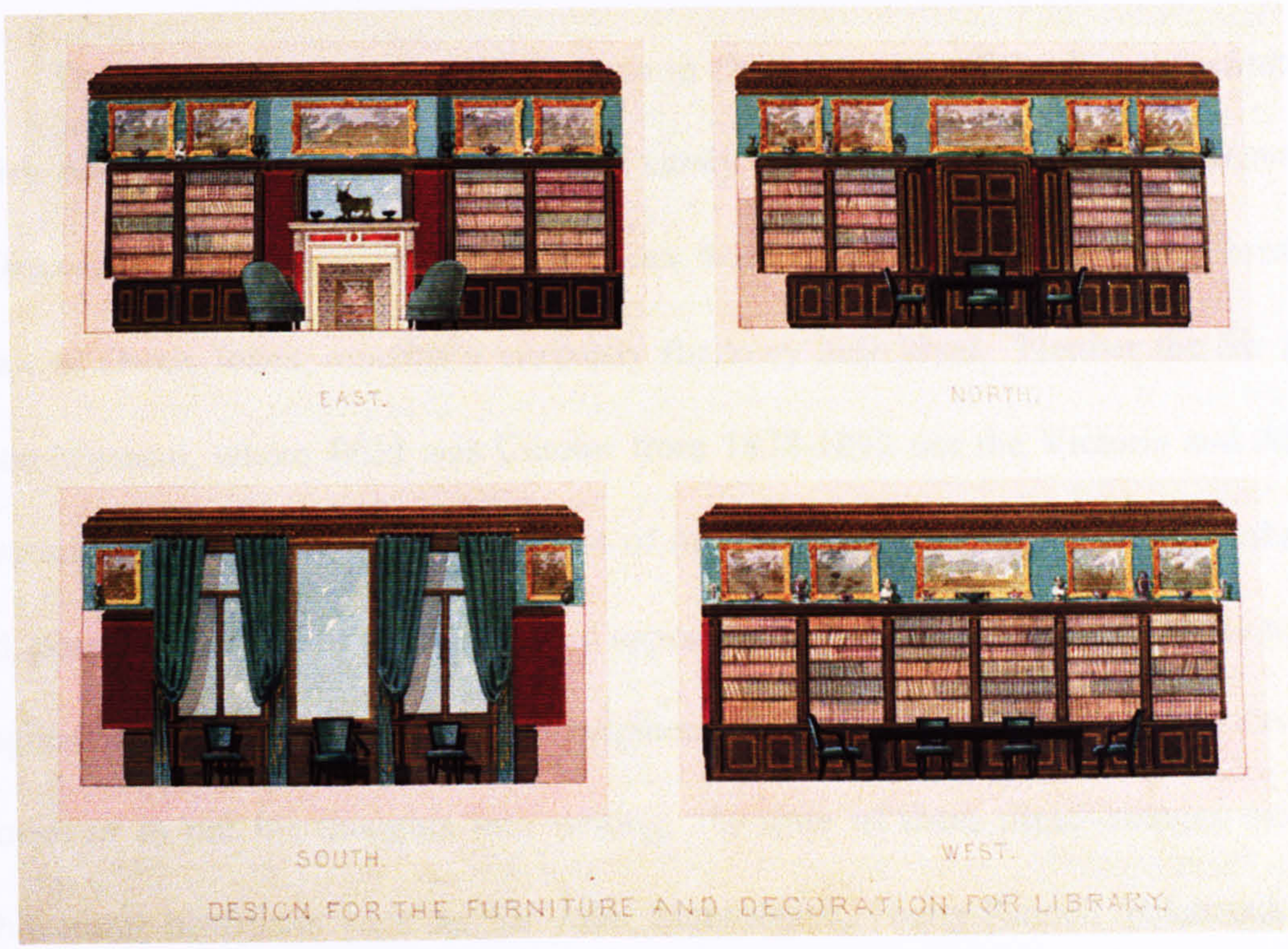


Fig. II.25 Eynsham Hall, Oxon: design for the library

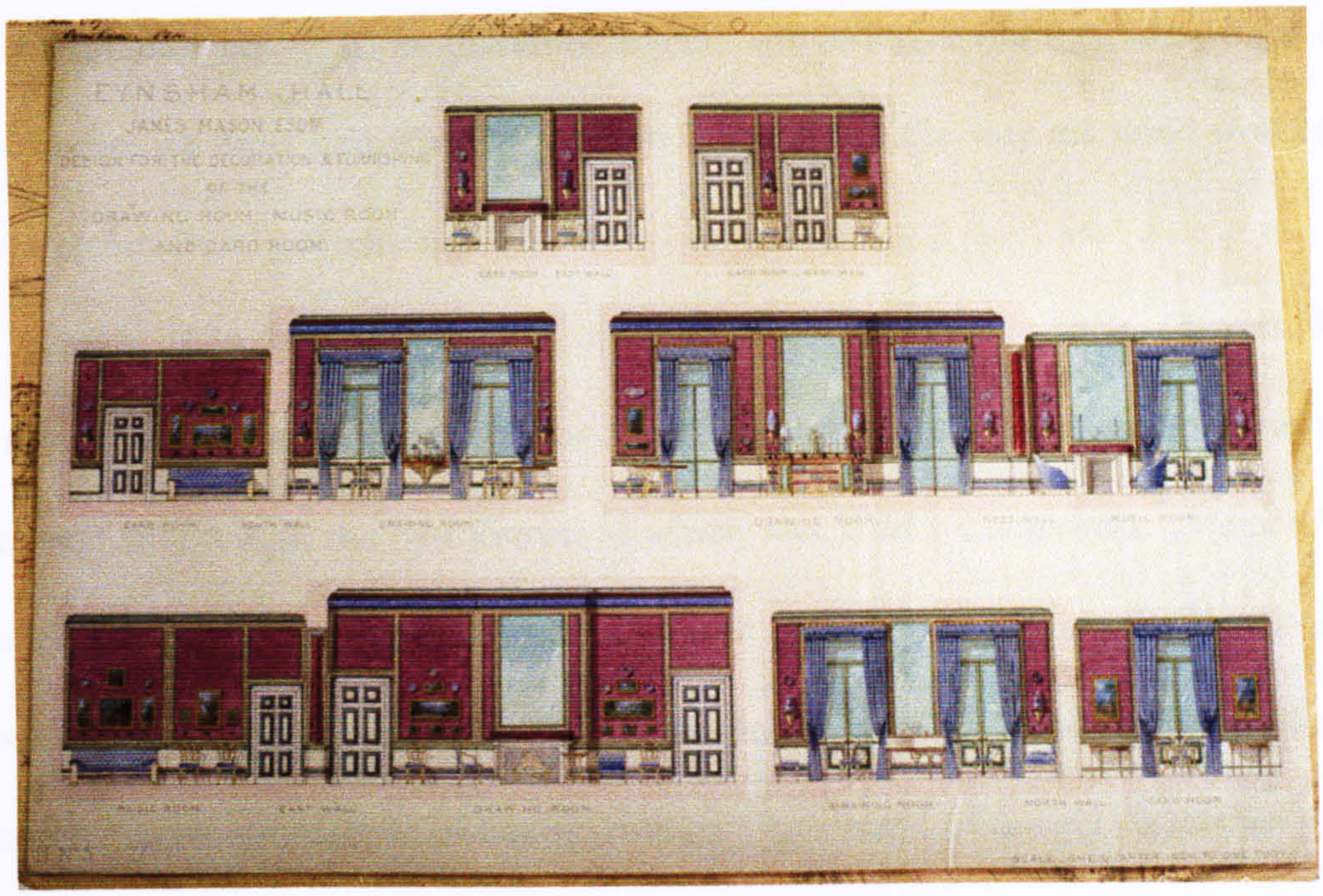


Fig. II. 26 Eynsham Hall, Oxon: designs for the drawing room, music room and card room

CHAPTER III

James William Wild: the introduction of structural polychromy

Thanks to the portrait which remains in the possession of the Royal Institute of British Architects at Portland Place we can easily visualise the author of *The Grammar of Ornament*. By comparison James William Wild (1814-1892), the architect brother-in-law of Owen Jones, remains a curiously shadowy individual. Neither the Sir John Soane Museum, where Wild was Curator from 1878-1892 nor the Victoria and Albert Museum, South Kensington, where most of his surviving drawings and notebooks are held, possess a picture of the man so his appearance is unfortunately left entirely to our imagination. This air of anonymity is heightened by a reluctance on his part to develop theories or to put his thoughts into writing. In spite of these disadvantages modern architectural historians such as Sir John Summerson, Henry-Russell Hitchcock and David van Zanten credit him with occupying an important place in the history of Victorian architecture. It is therefore to his surviving buildings, drawings and notebooks that we must turn if we are to gain insights into the way his mind worked in regard to architectural polychromy.

Born in 1814 Wild was brought up in an artistic family, his father Charles Wild being a member of the Old Watercolour Society and the publisher of several books of architectural engravings, the best known of which was *Wild's Cathedrals*.[1] Many of the studies which Charles Wild made were of Gothic churches in France. By the time he became an articled pupil of George Basevi the son James Wild had therefore already been steeped in an atmosphere of Gothic studies. As a pupil of Basevi, Wild was in the unique position of having his architectural training with a talented architect of the Classical school who had in turn been one of Sir John Soane's most distinguished

pupils. Thus as a result of these different influences in his early career Wild must have in effect become architecturally bilingual in the languages of both Classical and Gothic schools.

During the time that Wild was serving his articles Basevi won the competition for the Fitzwilliam Museum in Cambridge[2] and no doubt as a result of the extra workload this produced, Wild was given responsibility for the design and building of a country church.[3] In all probability this was the re-building of St Andrew, Hove, Sussex (1833-36), attributed to Basevi in Pevsner's *Sussex* and described by him as being in a 'Neo-Norman and uninspired style.'[4]

With Basevi's encouragement Wild proceeded to set up in practice on his own and was immediately rewarded with commissions for several small churches. The first of these (All Saints, Botley, Hampshire (1836), may have been a rather cautious and unimaginative exercise in middle pointed Gothic, but it helped to establish his reputation with the diocese of Winchester as a capable architect who was able to design and build churches within a tight budget. Further commissions quickly followed: St Laurence's, Southampton (1839), (now demolished), Holy Trinity, Blackheath Hill (1838-39), (also demolished) and Holy Trinity, Coates, near Whittlesey, Cambridgeshire (1839). Holy Trinity, Blackheath, is no longer standing but owing to an illustration and an account of the building in the British Almanac and Companion,[5] we are able to visualise how it must have looked. The massing of the church was complex and distinctive, there being twin towers and spires rising from the east ends of the aisles on either side of the nave. Between the towers the nave was terminated by a buttressed

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[1] WILD, CHARLES. (1826): *Foreign Cathedrals: A Selection of choice examples of the ecclesiastical architecture of the Middle Ages, chiefly in France* (London: Wild/Ackermann)
[2] Basevi won the competition for the Fitzwilliam Museum Cambridge in 1835.
[3] CLARKE, C. PURDON (1892): 'James W. Wild', *Transactions of the Royal Institute of British Architects*, Vol.VIII New Series (30 March), pp.275-6
[4] NAIRN, IAN and PEVSNER, NIKOLAUS (1965): *The Buildings of England: Sussex* (Harmondsworth: Penguin) p.429

polygonal apse with lancet windows. For Hitchcock the significance of this design was that Wild might have drawn his inspiration from illustrations which he had seen of Rhineland churches and as an example he cites the abbey church of Maria Laach which had appeared on the frontispiece of William Whewell's *Architectural Notes on German Churches* (1835).[6] In the text Whewell had noted that 'the towers in many of the churches of the earliest style are near the east end' and he referred to the German use of semi-circular or polygonal apses.

Equally, there were examples of twin-towered Rhineland churches to be seen in Thomas Hope's *An Historical Essay on Architecture*,[7] which may also have given Wild the idea of flanking the chancel with towers in this manner to create a church of rather un-English appearance. *The British Almanac and Companion* remarked on the novelty of the church's design, there being 'much that is both unusual and effective in the disposition and general combination owing to the apsis being made to project between the towers.'[8] The same article went on to comment on the unsatisfactory appearance of the brick used for its construction:

> '...the homeliness of the material employed distracts in some degree from the effect of the design; for being constructed almost entirely of yellow brick - even the spires, with no other stonework than in a few of the mouldings, the building is not only unpleasing in colour, but has also a certain heaviness not apparent in a mere drawing of it.'[9]

At Holy Trinity, Coates, Cambridgeshire, we have another example of an early Wild church built almost entirely of brick but whereas the plan and massing of the Blackheath church appears to be derived from early German churches, the plan and massing of Holy Trinity, Coates, appears to be much more Lombardic in character. The

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[5] *British Almanac and Companion* (1840): (London) pp.225-231(referenced hereafter as *British Almanac*)
[6] WHEWELL, W. (1855): *Architectural Notes on German Churches* (Cambridge: J & J. Deighton) 3 eds to 1842. Quoted by HITCHCOCK, HENRY-RUSSELL (1954): *Early Victorian Architecture in Britain* (New Haven: Yale University Press)
[7] HOPE, THOMAS (1835-40): *An Historical Essay on Architecture*, (London: facsimile Alec Tiranti 1970) (referenced hereafter as HOPE: *Historical Essay*)
[8] *British Almanac*: p.231

position and shape of the bell tower testifies to this (Figs. III. 1 & 2) but there are other features such as the treatment of the nave arcades, with their rather curious column capitals, reminiscent of Barabarossa's Palace at Gelnhausen,[10] (Figs. III. 3-4) and the Lombardic frieze beneath the East window of the sanctuary which provide further evidence of the possible influence of Thomas Hope's *Essay* on Wild at this time. Hope had recommended the study of Lombardic churches, pointing out that English architects had much to learn from 'the simplicity, the distinctiveness, the magnificence, the harmony of their component parts'[11] and that they 'had a grandeur which we in vain seek in the complicated architecture of modern churches.'[12] Later he remarked that the simple grandeur of many Lombardic brick built churches was alleviated by elaboration of the architectural features and he described the skill and inventiveness which the masons had displayed in their use of brickwork.

> '...they began in those parts of brick buildings, which like arches, imposts, friezes, cornices and string courses, at once admitted and required somewhat more ornament, to show their ingenuity, by laying the materials in such a way that their sides and angles should offer various combinations resembling the teeth of a saw, the spine of a fish, the zig-zag of a fish net, and others, easy of execution and showy in their effect.'[13]

One possible effect of Hope's *Essay* was to have provided encouragement to architects who were using brick for their church designs, particularly in areas such as London where stone was both in short supply and expensive. The imaginative use of brickwork displayed by Lombardic masons showed it was possible to construct decorative architectural elements without resorting to the use of complicated and expensive modelling. John Shaw, an architect engaged on church work in London, took a particular interest in Hope's suggestions and he drew attention to them during 1839 in

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[9] *British Almanac*: p.231
[10] HOPE: *Historical Essay*, plate 34, capitals 4 and 6
[11] HOPE: *Historical Essay*, p.93
[12] HOPE: *Historical Essay*, p.93
[13] HOPE: *Historical Essay*, p.263

A Letter on Ecclesiastical Architecture[14] which he addressed to the Bishop of London. In this he advocated methods by which the cost of church construction could be minimised. Much of his advice had to do with economical forms of roof and gallery construction but he drew attention to the economies which could come from following the example of those early Lombardic churches which had featured in Hope's *Essay*:

> 'The Lombardic Architecture, containing as it does, in an eminent degree, the qualities now so important these appear to be, first economy; secondly, facility of execution; thirdly, strict simplicity, combined with high capability of ornament; fourthly, durability, fifthly, beauty.'[15]

Shaw pointed out that decorative brickwork could not only be used externally but internally as well; this could lead to economies since paint was not needed at the time of construction, nor was there a need for periodic re-painting.[16]

In the same year that Shaw had sent his 'letter' to the Bishop of London Wild received his second commission for a church in South London, this time for a new parish church in the rapidly developing suburb of Streatham. At that time Streatham lay within the diocese of Winchester and not in the diocese of Southwark as it does today, and the recommendation for Wild to be awarded the commission came from the Bishop of Winchester who was evidently aware of Wild's recent church work at All Saints, Botley and St Laurence, Southampton. In a letter to the Parish Building Committee he praised his 'taste and abilities, the accuracy of his estimates and safety of his work.'[17] In consequence of this Wild was invited to produce detailed designs for the new church and by April 1840 a full set of construction drawings in ink and watercolour had been prepared so that a contract could be signed with a builder.[18] It was probably these or

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[14] SHAW, J. (1839): *A Letter on Ecclesiastical Architecture as Applicable to Modern Churches*, (London: John Weale) p.20 (referenced hereafter as SHAW)
[15] SHAW: p.30
[16] SHAW: p.21
[17] Bishop of Winchester. Letter dated April 1839 to the Parish Building Committee, Parish Records of Christ Church Streatham, held by London Metropolitan Archive, p. 45, P1/1-170.
[18] These drawings, dated 9 April 1840 and signed by the vicar, Revd. John Blunt, Wild and the builder, John Thompson, are preserved among the parish records.

similar drawings which Wild showed at the Royal Academy in 1840 and were well received by the contemporary press. *The Athenaeum*'s correspondent commented:

> 'there is a simple grandeur about this design which deserves special recognition; it is in what we presume must be called the Byzantine style; it is broad, bold and massive, without heaviness.'[19]

Even with the initial designs for Christ Church it is evident there is a striking contrast between them and the works which Wild had produced up to that time. Unlike the churches which he had already designed which were essentially Romanesque (Lombardic) or Early English in inspiration, Christ Church could not be said to be derivative of any particular style. Certainly the plan was Early Christian and the composition Italian Romanesque, just as Holy Trinity, Coates, Cambridgeshire, and St Paul's, Newport, Isle of Wight,[20] (Fig. III.5) had been, but the massing and general arrangement of the elements appear to follow the Italian Romanesque church of San Zeno Maggiore in Verona. This model was also used by Lewis Vulliamy for All Saints, Ennismore Gardens, designed in 1837 but not erected until 1844,[21] and by T.H. Wyatt for St Mary and St Nicholas, Wilton, Wiltshire, built between 1841 and 1845.[22] Detached from the main body of the church in the south-west corner there is a tall bell tower, 113 ft. in height, which recalled the famous campanile of the piazza, San Marco in Venice. Further comparison between the two churches at Coates and Newport with Christ Church, Streatham reveal a move away from architectural elements such as stepped buttresses and gable end parapets, which provide surface modelling to the two former buildings, and instead to produce an altogether flatter and more severe outline to

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[19] *Athenaeum, The* : 30 May 1840, p.436

[20] Designed in 1840 but not constructed until 1844. On 14 March 1839 the Revd. N.A. Soames of Greenwich wrote that Wild 'is now building a Church at Southampton and another in the Isle of Wight' (London Metropolitan Archive P95/CTC1/17/143): and in September 1840 Wild writes that he has to go down to the Isle of Wight for a committee meeting (London Metropolitan Archive P95/CTC1/17/145).

[21] HOWELL, P. and SUTTON, I. (1989): *Victorian Churches* (London: Faber) p.73 (referenced hereafter as HOWELL & SUTTON)

[22] HOWELL & SUTTON: p.125

the Streatham building. While the first impression is that the building form has been much simplified, this is deceptive for the external walls of the nave and aisle and the campanile are all slightly battered, an effect which is emphasised by the recessed vertical wall plane of the West front portals. The principal change, however, is in the way Wild has introduced bricks of different and contrasting colours in the cornices, the string courses and the arches of windows and doors in a manner which emphasises and complements the architectural features and form of the building. If one compares the West facades of Christ Church, Streatham and Holy Trinity, Coates, (Figs. III.6 and III.2), it is immediately apparent that by contrasting light yellow and red bricks with the body of grey/yellow stocks bricks there is a vitality in the appearance of Christ Church altogether lacking at Holy Trinity, Coates. By introducing coloured bricks at the gable and cornice of the nave and aisles the massing and form of the building is defined and emphasised. Polychromy is also exploited to give emphasis to the main entrance portal where the striped voussoirs continue back within the whole depth of the recess (Fig. III.7).

What are the other ways in which polychromy is used as part of the architectural concept? It is used to bind the various elements together, for instance, the string course of zig-zag and chequerboard bricks which is carried all around the building, tying in the campanile and apse with the aisles and providing a horizontal figure from which the clerestorey windows rise. Bands of coloured bricks are also used to tie the clerestorey windows together at the springing points of the arches.

A further way in which Wild exploited polychromy at Christ Church was to introduce diaper work of contrasting bricks so as to provide relief in large surfaces of brickwork. Wild's concern that large unadorned surfaces of brick or tile are unsatisfactory in appearance is revealed in a letter to Revd. Blunt about the roofing:

'The ordinary blue slating is in the opinion of almost all architects and painters –

the most cold disagreeable colour – a murky spectral tent which neither harmonizes or contrasts with the building or the sky. Standing itself alone [asserts] this unpleasant colour – there is no variety in the surface... but slated roofs never [fill] the inspection of solidity – they have no architectural character or form about them – the old temples were covered for instance with marble slabs nearly in the manner of those tiles and Gothic buildings I believe were originally covered with tiling like scales in different patterns.
The Italian tiling would give the true architectural character to the church but the cost of our roofs would be about £200 more than the common slate or £125 more than the Westmoreland – I fear the committee are not architectural enough for this'.[23]

The spire to the campanile avoided blandness by introducing chevron stripes of red contrasting with a background of yellow bricks; the stripes are also interspersed with red crosses in the yellow brickwork.

Of all the polychromatic features the caveto cornice is certainly the most original and interesting. The design of the cornice had a long period of gestation and went through a number of stages before the final form of it was decided. A full set of construction drawings in ink and watercolour dated April 9, 1840 and signed by Blunt (the incumbent), Wild and the builder John Thompson are preserved among the parish records. In these the cornice shown is a Byzantine one (see Fig. III.8) but clearly Wild was dissatisfied and eventually hit on the idea of using an Egyptian caveto cornice.[24]

Wild's difficulties in coming to a decision over the design of the cornice are recorded in correspondence with the Revd. Blunt:

> 'Your opinion of the cornice agrees exactly with my own – it is certainly much too Egyptian – and the character is too massive for the constructive effect of the details of the Church – at the same time I feel that the profile – that is the general form is the best that can be adopted – and I must arrange the decorative leases differently.
> My great difficulty is this – the true Byzantine Architecture is of a transitional character and is a compound of invention and adaptation of older styles made up of old materials and worked in with brick construction – the cornices are generally little series of arches and corbels thus:

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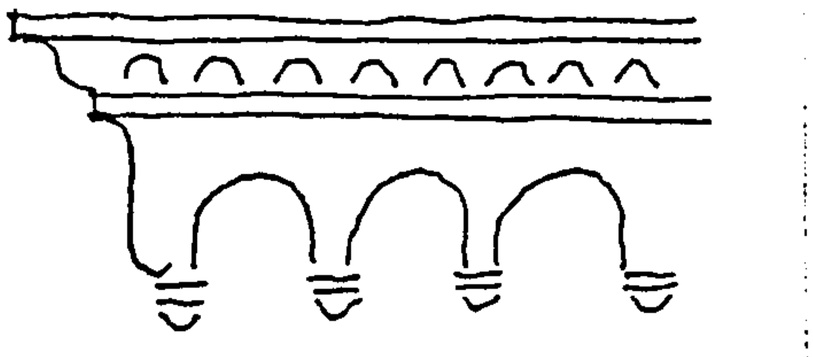
[23] James Wild, Letter of 30 March 1841 to the Revd. J. Blunt, Christ Church, Streatham Parish Records (London Metropolitan Archive P45 P1/139-151

[24] The Victoria and Albert Museum possess three preliminary sketches by Wild for the front facade (Fig. III.9) and a perspective sketch (Fig. III.10).



or little arcades but these details

> of the style like many others which I have avoided, are rather pretty than noble and although they might be admired – yet they contradict the quiet serenity of style at which I aim.'[25]

In his correspondence Wild refers to a stage when the cornice is formed of timber and the decoration is created by means of coloured mastic but he finally adopted a means of construction which made use of red and yellow glazed bricks, a technique consistent with the palette of colours and materials used elsewhere. The caveto itself was formed of long vertical stripes of red and yellow bricks, a re-creation of the carved and painted reed ornamentation of the ancient Egyptian caveto cornice. Below this were three courses of chequerboard red and yellow bricks on top of two courses of red and yellow bricks laid zig-zag fashion (Fig. III.11).

By the time of the church's consecration on 18 November 1841 by the Bishop of Winchester[26] there were insufficient funds remaining to decorate the interior. It was not until ten years later that this work was finally carried out to the designs of Owen Jones. A record in Henry Cole's diary indicates that he and his family were taken by Jones to see the newly completed decorations in November 1851.[27] Wild's longitudinal sections in the contract drawing set (Figs.III.12 & 13) provide some evidence of proposed internal ornament and show the outline of voussoirs to arches of the nave arcade but

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[25] J Wild, Letter to Revd. Blunt November 12, 1840, Christ Church, Streatham: Parish Records retained by London Metropolitan Archive P45 P1/139-151.

[26] *Christ Church Streatham. A History and Guide,* Parochial Church Council, 3rd ed. revised by Rev. Christopher Ivory, 2000

give no evidence of colour. Other decorative features such as Moorish capitals to the nave columns, chevron outlining to the arches beneath the gallery and a gallery front faced with six pointed stars might have been painted if funds had permitted. The only evidence that Wild might at one stage have been considering the use of polychromy for the interior comes from an early study for 'an internal bay of a church'[28] which is amongst the collection of Wild's drawings and sketch books at the Victoria and Albert Museum. Michael Darby has commented[29] that this is probably derived from 'the great mosque at Constantinople' and it is likely that Wild had seen Jones's drawings (Figs. II.1 & 2) of the Mihrimah Djami at some time. The shape and spacing of the clerestorey windows in the study (Fig. III.14) certainly seems to reflect the arrangement of windows of the original design (Fig. III.15).

Christ Church, Streatham represents such a major departure from Wild's earlier projects that there has been a good deal of discussion in recent years as to how he came to produce a design of such originality. It is apparent from the outset that Wild was faced with the kind of challenge which is so familiar to practising architects, the necessity of meeting a demanding brief with barely adequate funds at his disposal.

The church had to seat a congregation of 1,200 people and this entailed quite a large building - but if the necessary amount of space was to be provided within the available funds it meant that the structure had to be designed with economy constantly in mind. Wild's previous experience of church design would have made him aware that carved stonework for window tracery, buttresses, and other stone architectural details such as copings and string courses would take a toll of his limited budget and would have to be avoided if costs were to be kept down. In an area where brick was the most

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[27] COLE, HENRY, *Sir Henry Cole Diaries*, National Art Library, Ms. 55.AA.14. 1 November 1851 entry reads: 'With O. Jones, Marian and the children to see his decoration of J. Wild's church at Streatham: novel and impressive.'

[28] V&A, P&D Dept. Accession No. E 3652, Pressmark 94.J.24 (Described in catalogue as 'design for arches, clerestorey and wall decoration in the nave of a church in the Italo-Byzantine style')

economic building material available it was natural therefore that the structure should be conceived as being of brick and that the adopted style should be one sympathetic to that material.

At the time of completing his first sketch designs for the church Wild wrote to the Rector and sponsor of the church, the Rev. Henry Blunt, to explain his approach to the design:

> 'It appears to me absolutely necessary that a church should have the appearance of solemnity and that the only means of attaining this attribute is by severe simplicity in design and by avoiding the appearance of having attempted more than could be accomplished.'[30]

Hitchcock notes[31] the similarities in concept and methods of gallery construction between Christ Church, Streatham and another Christ Church at Watney Street, London, designed by John Shaw, the author of the letter addressed to the Bishop of London on economical construction. However, there is no evidence that Wild, who was a member of the Architectural Society and in the Owen Jones circle, was aware of Shaw's views about church building economy, or for that matter about his advice concerning the merits of the Lombardic style.

All the indications are that it was above all economy that governed many aspects of the church's design; the choice of brick as the construction material, the use of a plan form which kept to a simple outline with the minimum of projections and recesses; the employment of flat surfaces and avoidance of heavily modelled details; all these things can be seen and explained. What is much harder to explain is how Wild came to introduce details of such startling originality. Writing about Wild in an *Architects Journal* number of 1929, J.N. Summerson drew attention to the fact that his employment of multicoloured bricks to decorate the exterior walls was well ahead of his

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[29] From notes on Christ Church Streatham prepared by Michael Darby on 7 December 1971
[30] Letter from Wild to Blunt, 10 February 1840, (London Metropolitan Archive P95/CTC1/17/139).
[31] HITCHCOCK: p.106

time:

> 'In considering this unusual building it must be borne in mind that it was finished some eight years before Butterfield's famous church in Margaret Street was begun, and that Ruskin's dogmas on polychromy did not appear in full till "Stones of Venice" was finally launched in 1851. At Margaret Street the use of different colours was regarded as a surprising innovation, but at Streatham Wild had already employed bricks of three colours to decorate the exterior of his church and had contrived to give style and character to the design by the use of ingenious cornices and strings built up of these materials.'[32]

There is reason to believe that some of the decorative brickwork might have been inspired by Wild's knowledge of vernacular work. In South Hampshire, for instance, where Wild had recently completed two churches, bricks of different colours had been used since Tudor times for diaper work and to outline window and door openings. Wild had already used mono-coloured zig-zag brickwork in cornices at Coates and Barton so an innovative mind such as his might have realised the potential for decorative effect which different coloured bricks could provide. But while the chequer and chevron decorative brickwork might have its roots in vernacular English work the same could not be said about some of the other features at Christ Church, such as the door and window arches. There the very slightly pointed shapes, the intrados and extrados of which were described by different radii, were clearly following Islamic forms.

By the time Wild had started the design of Christ Church in 1839 a number of books were in circulation which might have provided some inspiration for his polychrome ornament. Reference has already been made to Thomas Hope's *An Historical Essay on Architecture*, a book likely to have been familiar to Wild and one in which he would have been able to note the various ways in which Lombardic architecture had made use of decorative brickwork to emphasise architectural features and enliven the surface of brick walling. Earlier in 1829 Edward Cresy and George

Ledwell Taylor had published *Architecture of the Middle Ages illustrated by a view, plans, sections, elevations and details of the Cathedral, Baptistry, Leaning Tower or Campanile, and Campo Santo, at Pisa.* In drawing attention to this work Neil Jackson has, in a recent issue of *Architectural History*, made the point that it was 'in this book, apparently for the first time, the polychromatic decoration of Italian Gothic buildings was actively promoted.'[33] It is possible that this work may have had some influence later on the development of constructional polychromy in High Victorian architecture but it is difficult to see how Wild's ideas could have been shaped by what Cresy and Taylor had to say. The kind of constructional polychromy described in their book is encrustation, or *placage*, as van Zanten calls it, rather than a form of colouration which is integral with the structure, as it is at Christ Church. Another work quoted by Jackson[34] on the subject of Italian Gothic which would have been available to Wild was Robert Willis's *Remarks on the Architecture of the Middle Ages, Especially of Italy*,[35] but again the references to polychromy are to do with encrustation and on that subject Willis was unimpressed by what he saw:

> 'Much of the peculiarity of Italian Gothic is produced by the introduction of flat surfaces for the display of mosaic, or of painting; their profusion of marbles has led them to cover whole buildings with slabs, disposed in panels, or alternate horizontal stripes of various colours, producing to English eyes the most disagreeable effect; while the limited thickness of this coating excludes the depth and richness of the genuine Gothic mouldings.'[36]

Hitchcock suggests that Wild's ideas may well have come from a study of the lithographs in H. Gally Knight's *Saracenic and Norman Remains in Sicily* (1838)[37] but this seems improbable, since most of the examples illustrated are built of stone and do

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[32] SUMMERSON, JOHN (1929): 'An Early Modernist', *The Architects Journal*, Vol. (9 January), p.58 (referenced hereafter as SUMMERSON)
[33] JACKSON, NEIL (2000): 'Constructional Polychromy', *Architectural History*, 43, p.223 (referenced hereafter as JACKSON)
[34] JACKSON: pp.224-5
[35] WILLIS, ROBERT (1835): *Remarks on the Architecture of the Middle Ages, Especially of Italy* (Cambridge: J. & J.J. Deighton) p.12 (referenced hereafter as WILLIS)
[36] WILLIS: p.12

not display the small scale chequering and diaper work associated with brickwork. One of the only plates which does show examples of brick construction, and incidentally arches of Islamic rather than Romanesque form, is that of the 'Interior of the Baths at Cefalu'[38] but even in that monochrome lithograph it is apparent from the hatching that the voussoirs of the arches are not of contrasting colours.

Of the various publications on Islamic architecture which would have been in circulation in 1839 only one, Pascal Coste's *Architecture arabe ou monuments du Kaire* had illustrations which were reproduced in colour. No doubt Wild would have been aware of this book as a result of it being brought to his attention by his two friends Owen Jones and Joseph Bonomi and it has been suggested by two scholars, David van Zanten and Neil Jackson, that certain details of the building may have been influenced by buildings which are illustrated in *Architecture arabe*. Van Zanten suggests that the colouration of the three west arches can be traced to this source[39] but this would appear to be a tenuous link for a large proportion of the buildings illustrated are constructed of stone, nor is it apparent that any of the arches depicted have the same degree of variation in colour between the voussoirs. The arches to 'La salle et bassin pour les ablutions' at the mosque Teyloun are varied in colour but to the simple rhythm of a-a-b-b-a-a-b-b, etc.[40] as against the much more complicated rhythm in the central arch of a-b-a-b-a-b-c-b-c-b-a and a-b-a-b-c-b-a in the side arches at Christ Church. Jackson has attempted to find a precedent for the main west archway in Owen Jones's *Alhambra* drawing of the 'Puerta Principal ó de Justica'[41] but the arch is of horseshoe form and the drawing does not indicate any variation in colour between the brick voussoirs of the arch. Jackson has also sought to find precedents for the 'rose window' in the *Alhambra* and *Architecture*

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[37] HITCHCOCK: p.576
[38] KNIGHT, H. GALLY (1838): *Saracenic and Norman Remains to illustrate the Normans in Sicily* (London: John Murray) plate V
[39] VAN ZANTEN: p.350
[40] COSTE: plate V

arabe. The lattice work of the 'Puerta de la Sala de los Abencerrages', or the 'Sala de las dos Hermanes' are claimed as possible sources but in both these cases the star forms shown are eight-pointed, rather than six-pointed as it is at Christ Church. If one has to look for a precedent in Coste's illustrations the six-pointed star window at high level within the central archway in the nave to the Mosque Kaid-Bay would seem to be a more promising source than the six-pointed stars shown in 'Details de la Mosquée Teyloun'.[42]

While we can speculate endlessly on the possible sources of such details as these we do at least have a clear statement from Wild concerning his wish to avoid designing the church in a known and recognisable style. In a letter written to Joseph Wood shortly after Christ Church had been completed Wild remarked:

> 'I object in the first place to the adopting [of] any style. This word style, and the meaning attached to it seems to me to be the chief source of all our architectural failures....those who can really appreciate what is beautiful in ancient architecture - apart from the mouldiness and decay - know why it is in vain to imitate the more prominent features as a sort of decoration to new building without all the circumstances which created the architecture it is wished to imitate - we must study from all sources and adapt and apply our knowledge with invention as our forefathers did or we can but produce caricatures of their works.'[43]

This statement goes a long way to explain why, for instance, there seems to be no direct historical precedent for the rose window. The Islamic form of the six-pointed star, formed of two interlocked triangles, is only the departure point for what is ultimately a unique decorative feature. In this colour plays an important part, the six-pointed star with its central 'IHS' monogram is formed of pale blue faience which contrasts subtly with the radial bricks of cream and buff. Between the twelve radiating

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[41] JONES: *Alhambra*: plate II, quoted by JACKSON, p.238

[42] JACKSON: p.238. In commenting on the 'rose window' *The History and Guide to Christ Church Streatham* notes, 'It is not known why the architect decided to include it. He referred to it as "the rose window" and his design predates its widespread use as a Jewish symbol. There may have been some cabalistic use before this time, but the earliest known use as an ordinary symbol by Jews is in the 1830s.

[43] Letter Wild to Wood, 14 December 1841, Borthwick Institute of Historical Research (Hickleton Papers), York.

spurs small chequers of red brick not only lend emphasis to the form of the round window but also provide unity with the other decorative features in polychromatic brickwork. The design of the two brick obelisks which flank the approach to the west portal appear to have their precedent in Gupta (Indian) design[44] but again, the colouring of the brickwork (generally yellow brown but with stacked red and white bricks beneath the pyramidal capping), provides unity with other decorative features in other parts of the building. In the campanile and the cornices of the church we find further evidence of Wild's ability to borrow from architectural features of other styles but to blend them with harmonious results. In all these examples structural polychromy makes an important contribution towards that harmony. In the case of the bell tower, reminiscent of the campanile in the piazza San Marco in Venice, but also recalling the Giralda tower at Seville,[45] Wild introduced red brick chevron patterning against the general buff brick of the spire. Bands of chequered red and white bricks emphasise the junction between the top of the tower and the pyramid above, while below red and yellow voussoirs in Islamic arches of similar design to the aisle windows, bridge the openings between the lesenes.

Wild's decision to adopt an ancient Egyptian caveto cornice for Christ Church is apparently more difficult to explain than some of the other architectural features but the answer to this seems to lie in his links with Owen Jones and Joseph Bonomi. It is not recorded how Wild and Jones first met but it seems likely it was as a result of them both being members of the newly formed Architectural Society and their meeting would have taken place after Jones had returned from his travels in Spain and the Middle East[46] in 1834.

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[44] *Christ Church Streatham: A History,* p.8
[45] From notes on Christ Church Streatham prepared by Michael Darby on 7 December 1971
[46] DARBY: 'Eastern Ideal', p.8

By 1839, at the time he received his commission to design Christ Church, Wild was living at the same address as Jones at No. 9 Argyle Place, London, while Bonomi was a near neighbour, living at No. 11 Argyle Place.[47] In an undated letter, assumed to have been written during 1840, Wild wrote to Bonomi:

> I hoped to have had the pleasure of receiving you this evening but I am not able. I have wished to see you for some time to have your advice on many alterations I am making in the design for Streatham Church which gets more Egyptian every day.'[48]

It seems to be more than a coincidence that Joseph Bonomi, with James Combe of Leeds, had only two years before (1838-40) designed and built Marshall's flax mill in Leeds in neo-Egyptian style and featuring a caveto cornice (Fig. III.16).[49] Wild's skill lay in adapting an apparently alien architectural element to his Christ Church design and, through the use of structural polychromy, make it blend in so comfortably.

Since it is evident that Bonomi was asked to give Wild some advice on the design of the cornice it seems very likely that either he or Jones played a part early on in Wild's decision to use arches of Islamic form and colouring. The fact that this may have happened in no way suggests, however, lack of responsibility for the overall design on the part of Wild. Neil Jackson's verdict seems to be correct:

> '...every indication from the documentation is that the church, as an architectural commission and a design process, was Wild's own, even if Jones and Bonomi were looking over his shoulder as he designed and re-designed: that is how architects work.'[50]

In his thesis 'The Architectural Polychromy of the 1830s', van Zanten categorised the development of structural polychromy as belonging to four types. In

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[47] Joseph Bonomi was living at No. 11 Argyle Place, London from 1834 until at least 1840, an address which he shared with Joseph John Scoles. This is confirmed by correspondence in the possession of Mrs Yvonne Neville-Rolfe, a descendant of J. Bonomi. I am very grateful to Mrs Neville-Rolfe for investigating this for me.

[48] Bonomi Papers, Cambridge University Library, Add 9389. (Recently acquired from the Trustees of Mrs L. de Cossons, a descendent of J. Bonomi).

[49] CURL: *Egyptomania*, p. 170. See also, PEVSNER, NIKOLAUS and RADCLIFFE, ENID (1967): *The Buildings of England: Yorkshire: The West Riding* (Harmondsworth: Penguin, 2nd ed), p. 334. According to information supplied by Mr Norbert Lynton and Mr K.J. Bonser it was Ignatius Bonomi who was responsible for the design.

discussing the work of Wild at Christ Church Streatham, van Zanten characterised him as a structural rationalist belonging, along with Schinkel, Hittorff's assistant Zanth, Semper and Bindesbøll, and therefore conforming to his second type:

> 'The gradual acceptance of structural polychromy in place of painted polychromy and the accompanying changes in historical sources...from Greek to Islamic and Italian (and in architectural terms from Jones's and Semper's anti-materialism to structural rationalism)'.

In practice Wild does not fall easily into this category for several reasons. To begin with painted polychromy does not seem to have been a source of inspiration at all for the structural polychromy which Wild employed at Streatham and there is nothing about his previous work which would suggest this. His reasons for using structural polychromy were partly theoretical and partly pragmatic, but the theory had nothing to do with painted polychromy. Wild shared Jones's view that no historical style could be representative of their age and that 'we must study from all sources and adapt and apply our knowledge with invention as our forefathers did or we can but produce caricatures of their works.' As has been shown Wild drew on a variety of historical styles for his architectural features. By using a limited palette of materials and colours he was able to introduce cohesion between these differing features. The second reason for using structural polychromy appears to be an essentially pragmatic one; the need to use economical forms of construction.

By the time Wild received his commission to design Christ Church his previous experience of church work had taught him that it would not be easy to provide the number of seats required within the available budget and at the same time produce a design of architectural quality. Wild knew that carved stonework for features such as window tracery copings, string courses and architraves would eat heavily into his budget and would have to be avoided. Specially moulded bricks had become much more

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[50] JACKSON: p. 238

affordable as a result of the Duties on Brick Act in 1839[51] and the solution was therefore to use brick throughout the structure. But a brick building all of the same yellow-brown stock bricks could only be featureless and uninteresting, as he had discovered at Holy Trinity, Coates and Holy Trinity, Blackheath, so the remedy was to introduce different coloured bricks to give emphasis to the architectural features and thus provide variety and interest for the eye. During their travels in Egypt and the Near East Jones and Bonomi had seen many buildings where materials of different colours were used together to achieve the effects which Wild desired and we can be sure that he responded to the knowledge which they were able to impart.

The year when Christ Church, Streatham, was completed (1841) seems to have been unfavourable for such a radical and experimental form of architecture and it made little immediate impact on architectural thought: already the climate of architectural opinion was beginning to swing firmly behind the Gothicists. In 1834 the competition for the Houses of Parliament had insisted on a Gothic or Elizabethan solution and since that event, coupled with certain other circumstances, there was a strong movement in favour of the English Gothic style to be used for church architecture.

The route by which the Church had developed its support for a return to Gothic architecture had been set in motion by the Tractarians during the early 1830s. Under the leadership of Keble they had reacted against a tendency evident since the seventeenth century for many churches to be reduced to preaching boxes, which were devoid of the ritual and symbolism which had been part of worship in the Middle Ages. The Tractarians wished to revive old ritual, and to do so they wanted churches in which it could be accurately performed – churches with altars and deep chancels. In particular, they wanted to move the imagination through symbols, and for this they required the sculpture and architecture of the church to be rich in symbolical device. In short, they

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[51] JACKSON: p.241

wanted a true Gothic church.

The movement in favour of a return to Gothic architecture received a further boost in 1839 when J M Neale and Benjamin Webb formed the Cambridge Camden Society and then in 1841, started to publish the monthly magazine *The Ecclesiologist*. The editors of this magazine took it on themselves to be the arbiters of taste in respect of the standards of design and quality of new churches; something which they did so effectively that for the next ten years they wielded considerable influence in the choice of architects for new Anglican churches.

An article which appeared in *The Ecclesiologist* in 1842 made plain their support of Gothic for church architecture: In replying in length to a paper by a member, Rev. J.L. Petit, MA, they made the following statement:

> 'We regard all attempts to introduce "entirely new styles" for church building with the greatest suspicion... For first, a new style is unnecessary; we are already in possession of models most perfectly adapted to our purposes, if we avoid the indulgence of extravagant caprice and fancy in applying them; secondly we should naturally prefer the style which the Christian Church in England has made peculiarly its own; thirdly we ought to follow the examples acknowledged by all to be of perfect beauty, and for imitating which we have the greatest possible facilities; fourthly, we must take into consideration the peculiarities of climate; fifthly, by giving unlimited licence to architects and builders of all classes and capacities to vie with each other in "maturing" these new fangled semi-paganisms, we are sure to introduce every possible solecism and absurdity of which architecture is susceptible;... last, both the Italian and Greek styles have been attempted for the last two centuries in England, yet surely they have ever been found singularly inapplicable to ecclesiastical edifices.'[52]

Not surprisingly, therefore, *The Ecclesiologist* was harsh in its criticism of Christ Church, Streatham:

> 'Streatham church is so utterly unlike every other ecclesiastical building, that it is by no means easy to describe it. The style is Moorish, and the building consists of Nave and two Aisles, with a long thin tower at the south-west angle. The latter is 113 ft in height and 15 ft square; and, being panelled in three enormously lofty lancets, presents an appearance perfectly indescribable. The cost of this building was £6,000. Why were our own ecclesiastical styles deserted, for forms which, if they express anything, express only the spirit of a

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[52] *Ecclesiologist, The* (1842): Vol. I, pp.97-8

false religion, and are adapted only to the necessities of a burning climate'.[53]

It is ironic that Wild's church, based as it was on the Lombardic architecture of the early Christian church in Northern Italy and Germany, should be regarded as expressing 'the spirit of a false religion'. It was true, however, that it lacked the symbolism of a true Gothic church - indeed, in attempting to design a building which consciously avoided historical associations Wild's objectives were completely at variance with those of the Ecclesiology movement. Faced with these circumstances it is probable that Wild's early reputation as a church architect would not have survived had he remained in England, but he was not to suffer this experience for in 1842 he accepted an invitation to join an archaeological expedition in Egypt, and eventually stayed abroad for five years.

The Middle East Sketchbooks

In 1842 the King of Prussia mounted an expedition to Egypt and Nubia under the leading German archaeologist Karl Richard Lepsius, with the intention of investigating the ancient Egyptian monuments in the Nile Valley.

Prior to embarking at Southampton for Alexandria, Lepsius spent time in London to settle final arrangements with Christian van Bunsen who was backing the expedition in his capacity as Prussian ambassador in London, and it was evidently during this time that he made the acquaintance of Bonomi and Wild. Lepsius's diaries indicate that the decision to include them in the party was made at short notice and as a result of their own initiative, for he reported:

> 'In London, I acquired two additional excellent travelling companions - Bonomi and Wild, who had lately determined to share in the expedition on an independent footing. The former, already well known as a traveller in Egypt and Ethiopia, not only has a thorough practical acquaintance with the mode of life in

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[53] *Ecclesiologist, The* (1841): Vol. I, p.20

> those parts, but also possesses a critical knowledge of Egyptian art, and is a master in Egyptian drawing; the latter, a young architect, full of genius, seeks with enthusiasm in the East a new field for the exercise of the rich and various gifts with which he is endowed.[54]

It is proof of the extent to which the Orient had captured Wild's imagination, under the influence of Jones and Bonomi, that he should abandon a budding architectural practice and volunteer for this expedition, apparently in an unpaid capacity. From the outset Wild applied himself with great diligence to the study of ancient Egyptian temples and tombs at sites such as Beni Hassan, Denderah, Eleytreia, Edfou and Philae, and produced numerous carefully dimensioned plans, sections and elevations, together with coloured sketches of friezes and sculpture. Much of the material he produced has been subsequently acquired by the Griffith Institute, University of Oxford. It was already known by this time that friezes depicting conventional scenes were set out using a squared-up grid-system which controlled the arrangement and postures of figures and had the benefit of allowing scenes to be scaled up or down as needs be. Colour was similarly conventionalised. In the studies which Wild produced of these scenes, can be seen the beginnings of his analytical approach to the study of Islamic architectural decorations which followed in due course.

Through previous expeditions to Egypt, Sinai, Palestine and Syria,Bonomi had built up a very wide circle of friends and acquaintances amongst travellers to the Middle East and these contacts were introduced to Wild when he arrived in Egypt and later when he travelled to Syria. This led Wild to be involved with a group of European orientalists of whom the central figure was Edward William Lane, a resident of Cairo and already well known as the author of *An Account of the Manners and Customs of the Modern Egyptians* (1836).[55] As a result of this network Wild was able to visit many

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[54] LEPSIUS, K. R. (1835): *Letters from Egypt, Ethiopia and the Peninsula of Sinai*, translated from the German by L & J Horner, (London: Bohn's Antiquarian Library) p.35

[55] LANE-POOL, STANLEY (1877): *Life of E W Lane* (London and Edinburgh: Williams and Norgate), p.114. Bonomi Papers, Cambridge University Library MS dept. File of P. Meadows

Islamic residences, including those of Dr Henry Abbott, an English physician and John Frederick Lewis, an English painter who lived in the Islamic part of the city. In these residences he drew dimensioned plans, sections and ceiling studies and also made careful colour studies of architectural features.

In April, 1844, Wild left Lepsius's expedition and returned to Cairo to expand his studies of Islamic buildings into other types, such as mosques, tombs and bath houses. By dressing himself in local costume he succeeded in gaining access to buildings which had previously been closed to western visitors. The studies which Wild made are chiefly contained in a series of pocket sketchbooks which, along with many other studies prepared during this period, were passed to the Victoria and Albert Museum after his death and may now be seen in the Prints and Drawings department. These studies reveal Wild as an individual committed to an idea of precise, factual recording and one who is attempting to understand the logic behind designs, rather than merely be concerned with the Picturesque impressions and associational meanings which had been valued by an older generation.[56] Unlike Jones, Wild was not by inclination a theorist, nor was he a teacher, lecturer, or writer, and in consequence he has remained a somewhat elusive figure. For this reason the sketchbooks produced during his Middle East years are of unusual importance if we are to discover more about his attitudes to the use of colour in buildings.

The problem is that the sketchbooks give few clues as to his thought concerning the information he was recording. Opinions are in very short supply, and it is left to the researcher to discern the way his mind worked in relation to colour and its bearing on architecture. Although it is nowhere stated, colour was most important to Wild. In this respect it can be said that he had more in common with Jones than he did with Bonomi.

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[56] CRINSON, M. (1996): *Empire Building: Orientalism and Victorian Architecture* (London and New York: Routledge) p.102 (referenced hereafter as CRINSON)

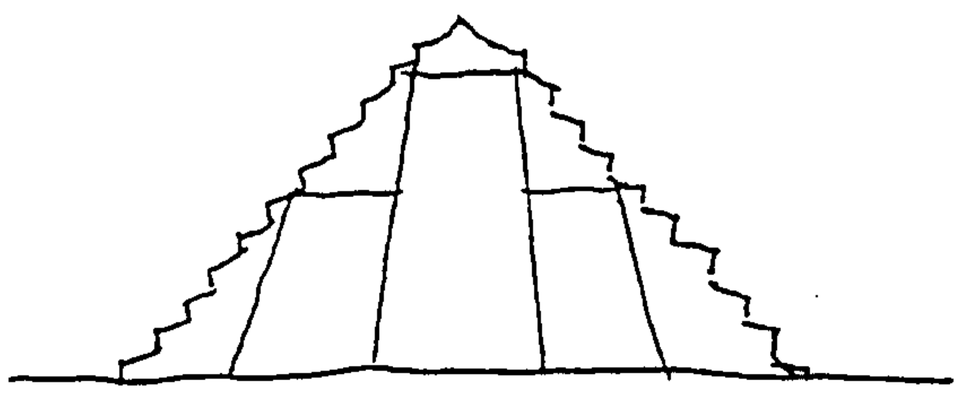
A comparison between the sketches prepared for the Lepsius expedition by Bonomi and Wild reveal, not surprisingly, that Bonomi, the sculptor and draughtsman, is preoccupied with figures and topographical scenes, while Wild, the architect, is mainly concerned with architectural and archaeological features, together with ornament. It also shows that of the two, Wild was the one who most wanted to record the colours he saw. In his sketchbooks Wild goes to considerable trouble to record the colours of buildings and decorative features; where this is not possible for any reason he often adds notes to remind himself of the colour (Fig. III.17).

It is evident from the care which was taken to record the information accurately (dimensions are often shown) that Wild intended them to be sources of inspiration for future architectural projects, rather than for them to be for books on the subject. Wild's studies reveal his enquiring and analytical mind; perhaps trying to discover how something was constructed, or setting down the Arabic word for a building feature; often they show his attempts to understand the geometrical or mathematical basis for a pattern. It is noticeable in this regard that strong geometric patterns interested him much more than floral arabesque ones. And the answer to these questions is usually provided in a graphic, rather than a literary way.

An example of Wild's tendency to see problems and answers in graphic terms rather than verbal ones can be found in an anonymous note which accompanies the Lepsius expedition drawings at the Griffith Institute.

> 'I recollect a conversation had at Giza between Dr Lepsius, Erbkam Wild and other members of the Prussian expedition as to the [source] of the construction of the pyramids and I recollect that the question was put to Wild "How would you as an architect set about the construction of such a building as the Gt Pyramid?" The answer was accompanied by a diagram showing that he would have constructed it in the way the pyramid of Meydoum was constructed, viz by building 3, 4 or even 5 stages and then filling up the angles'.[57]

[57] Griffith Institute, University of Oxford. Anonymous note accompanying uncatalogued papers from the Lepsius expedition.



Since Wild does not tell us about his attitudes to the colour which appears on buildings he studied, and makes no attempt to develop theories as a result of his observations, we are forced to form our own opinions using the material he has left behind.

Firstly, and not surprisingly since it followed from his work on Christ Church, Streatham, he is interested in buildings which exhibit the use of contrasting structural materials for rich visual effect. The most common manifestation of this was the banded ashlar effect seen in mosques, tombs and houses with alternating courses of pinky red sandstone or marble and white stone. Blue-black stone was then used to pick out Kufic inscriptions, or perhaps for voussoirs over the porch niches, as can be seen at Gama Beyburs, Cairo (Fig. III.18).[58]

A much more elaborate example of the banded ashlar effect can be seen in the carefully drawn elevations of the courtyard of Mr Robson's house, Damascus.[59] (Fig. III.19). One interior sketch which not only shows the pink and white banded effect but also the use of alternating pink and white voussoirs is believed to be the mosque of Sultan Hassan, Cairo (Fig. III.20).[60] Wild's interest in this banded visual effect was to

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[58] V&A, P&D Dept. Pressmark 94.J.24 Acc. No. E 3803-1938
[59] V&A, P&D Dept. Pressmark 94.J.25 Acc. No. E 3893-1938
[60] V&A, P&D Dept. Pressmark 91.A.74 Acc. No. E 3816-1938

be taken up by Ruskin a few years later when the subject was discussed in *The Stones of Venice.*[61]

When he designed Christ Church, Streatham, Wild was held to be influenced by the style of Islam. While a feature like a horseshoe arch could be identified in European terms as being 'Islamic', there was no such thing as a general Islamic style, since the Islamic world was itself enormous and comprised many different regional variations of architectural style. There were, however, certain aspects of Islamic architectural decoration, or more specifically Cairene 'Mamluk' decoration which were of special interest to Wild. These were consistent with his objective to develop a new ahistorical style which did not rely on copying motifs drawn from the past and the abstract nature of these designs gave them a timeless quality. Because the Arabs were forbidden by their creed to represent living forms they did not copy from nature. In looking to the principles behind the forms of nature and for these to provide inspiration for their designs they produced highly inventive and abstract forms of ornament, particularly in the mosaics, which were free of the historical associations which Wild wished to avoid.

Of all the regional variations in Islamic ornament the 'Mamluk' style which had evolved and developed in Cairo over 300 years was the one which appealed most to Wild's sense of system and order. The wall and floor mosaics, being made up of small tiles or tessera, were marvels of invention and one can see in Wild's sketches the joy which he got from understanding the skill and ingenuity of the designs which he was studying. Not only were the designs based on geometric patterns, they were also based on a very simple palette of primary colours, combined with black and white. Colour was therefore an essential part of the pattern and could be used in many ways (Figs. 21 & 22). For example, it could be used to lower or heighten the sense of richness; it

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[61] RUSKIN, JOHN (1851):*The Stones of Venice* 1, The Collected Works of John Ruskin, edited by E. T. Cook and A. Wedderburn, (London: Allen, 1903-12), Vol. IX, p.347 (referenced hereafter with RUSKIN

could be used to complement form; or it could provide continuity of line in the 'woven' effects beloved of the Arabs.

In these Cairene buildings, Wild was able to see how wall mosaics had been used to differentiate the non-structural screen wall surfaces from the structure, reflecting the theories on polychromy which Gottfried Semper was to publish within the next few years.[62] In effect, the mosaics were the equivalent of the carpet screens used in ancient Assyrian tents cited by Semper.

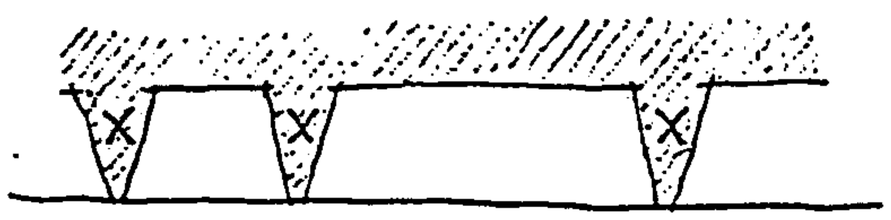
Wild was clearly alive to the possibilities of using wall and floor mosaics in the future for at the Beyt Hassan Pasha he wrote precise notes in his sketchbook on the techniques for applying them.

'Mosaic patterns from the walls.

The whole set in strong plaster in the wall – the large slabs, say 1.2 x 4.0 are about 1-1/8 to 1-1/4 thick = quite rough not even sawn smooth at the back – black marble.

The margins = 9 say 5" wide are about 7/8 thick – the white marble slabs are thicker than the black.

The little pieces are 5/8 thick rough at the back. All the pieces have – are cut in [ ] for the section that is to say – larger in front than at the back.

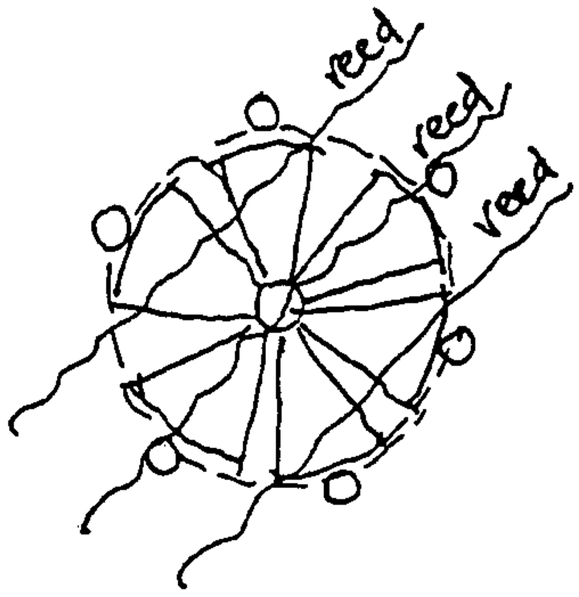


title and Works volume number)

[62] SEMPER, GOTTFRIED (1854): *The Origin of Polychromy in Architecture*, (London: Crystal Palace Library) p.29

The manner of the execution for the wall is as follows:
First the pieces are arranged on the ground – then plaster is poured on them which entering the places xxx binds the whole in one lump, then pieces of reed are laid across = and more plaster on this so that a large panel can be transferred and taken up and stuck to the wall.

The whole panel thus formed
Would be about 2" thick



The great slabs – and margins
Fixed first and the pattern work afterwards

A man said that FS drawings are even made for the patterns.

The pavements in mosaic are not set in plaster but in a mixture of lime and clay ½ and ½ or ¾ lime to one of clay [batter] – the clay is not burnt but as it comes from the pit – or place where it is found – this composition is impervious to water.
The small pieces are made of the refuse chips of the large slabs = ground down on the face and at the edges to the shape the sloped back shape is because it is easier to grind the edge exactly than the whole of the [fixing] of the side.
The white and black are of marble but the red is made by grinding down the broken water jars – which are of red tile and very large and thick'.[63]

One of the most comprehensive colour studies of an individual building in Cairo was carried out by Wild in the richly decorated interior of the Gama (tomb) el Ghoury. These studies bring out the way in which polychromy was used in conjunction with ornament to define the various elements of the building.

Whereas the soffit of the division marked on the plan D (Fig. III.23) is treated in a non-directional way and makes use of strongly geometric forms of ornament to produce a vibrant but static effect, the ornament of the two areas marked B and C, which are spanned by tie-beams (or tersouma) produces a more dynamic and directional effect. Here the sides are painted with a flowing leaf based pattern and the undersides with

patterns which are floral in origin. The soffits of the sections between the tie-beams are painted with non-directional panels which are principally geometric in design.

Although the patterns used for the ceilings vary according to the shape and structure of each division the unifying element is colour. With the exception of the dark green ground colour to the soffits of the edge-beams and the tie-beam springing sections (Fig. III.26), the palette of colours is red, blue, gold and white; black being used to pick out the edges of white in many cases.[64]

Although Owen Jones did not complete *Plans, Elevations, Sections and Details of the Alhambra* until 1845, Wild would have been well aware of Jones's discovery that the Alhambra had achieved its rich interior 'bloom' by the blending of blue, gold and red and he went to exceptional lengths to record the pattern and colour of the Gama el Ghoury interiors (Figs. III.23-30 inclusive). The treatment of the ceilings in this building using polychromy of the three primary colours, illustrates very well three principles which Jones later identified in *The Grammar of Ornament* for Moorish work, namely that the most brilliant effects were used to enhance those surfaces which were seen at a distance.[65]

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[63] V&A, P&D Dept., Sketchbook – Pressmark 91.A.75, p.22

[64] JONES: *Grammar*: p.71.
Owen Jones notes that 'at the present day, the grounds of many of the ornaments are found to be green; it will always be found, however, on a minute examination, that the colour originally employed was blue, which being a metallic pigment, has become green from the effects of time. This is proved by the presence of the particles of blue colours which occur everywhere in the crevices.'

[65] JONES: *Grammar*: Propositions 21 and 22, p. 7

St Mark's Alexandria and Wild's return to England

In 1845, while still in Cairo, Wild received a commission for the design of a new Anglican church in Alexandria. Originally Anthony Salvin had been the architect but his middle-pointed Gothic design was rejected on the grounds that its symbolism was inappropriate and, it was argued, there would in any case be difficulty in finding local craftsmen to carry out the work.

Clearly politics entered into the choice of Wild as the architect for the church. He already enjoyed a good reputation as a church architect in England; as a result of spending three years in Egypt he was becoming familiar with the manners and customs of the local people; and his enthusiasm for Islamic architecture and his lack of committal to English Gothic made him a safe choice in what were diplomatically delicate circumstances. As a mark of the good relations which existed between the Egyptian government and the British in Alexandria, Muhammad Ali, the Pasha had granted a site for the church in 1839.[66] While no formal conditions about the style were set by Muhammad Ali he did, however, indicate to the local Anglican community what he expected of the appearance of the building. As *The Builder* reported he 'expressed the wish that the structure should harmonize with the neighbouring buildings, and be worthy of the English people.'[67]

Clearly, the residents and their architect realised that if a missionary role was part of the function of the building it would be best to design the church in a style which would appeal to the local Muslim population rather than one to which they had a natural resistance. With this in mind they made a statement in a leaflet which explained how Muhammad Ali's request for some sense of local style had led them

> 'to adapt a style of architecture creditable to the national taste and not repugnant to the feelings of the local population...The establishment of the Protestant

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[66] CRINSON: p.111

[67] *Builder,The* (1846): Vol. IV, (5 September), p.421

> Church at Alexandria may also, by its simplicity and spiritual worship, be the means, under Divine favour, of ELEVATING CHRISTIANITY IN THE EYES OF THE NATIVE POPULATION, who have only known the Christian religion through the medium of the Greek and Roman Churches of the East, in which Images and Pictures form their chief ornament, but to which all Mahommedans have a strong repugnance.'[68]

As at Christ Church, Streatham, the design which Wild produced was based on a simple early Christian round apsed plan. At the west end the nave is entered through a massive portal, while instead of aisles, the nave is flanked on either side by open precincts. The final composition was to have included a tapering campanile of Venetian character and be topped with a pyramidal spire but this was never constructed. (Figs. III.31 & 32). When the scheme was published a statement was issued which declared the intention behind the design:

> '...to conciliate the opinion of the Arab inhabitants and to meet the comprehension of native artifices...while [the church] agrees in plan and mass with the style of art used by the early church architects [it] carries out a general sentiment of Arabian detail.'[69]

To say that the church carries out 'a general sentiment of Arabian detail' is something of an understatement for it does abound with Islamic motifs, several of which are based on the studies of Islamic ornament which Wild had made while he was in Cairo. One such example is the way in which the extrados to the portal and chancel arches, and also the windows internally and externally are all cusped at each voussoir, a detail which may be seen in Wild's sketches of the Mosque of Sultan Daher (Fig. III.33).[70] Another is the wooden roof which is formed of *muqarnas* - decorated beams similar to those which Wild sketched so carefully at the Gama el Ghoury, Cairo (Figs. III.23-30). In spite of this attention to Islamic detail in form the colour however is missing in all these elements and this raises a number of questions. If first we consider the exterior of the building it is surprising that the coursing of the stones is not banded

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[68] Foreign Office Papers, Public Record Office 78/663, Barnett-Aberdeen, 4 April 1846, quoted by CRINSON: p.119

in the manner, for instance, indicated in Wild's sketch of the Gama Beyburs, Cairo (Fig. III.18). Also, that the voussoirs of the arches are not picked out in contrasting colours. The additional cost of varying the colours must have been marginal and therefore not a reason for avoiding the treatment. The archives of St Mark's church contain Wild's original drawings of the building and with one exception there is no reference to the introduction of colours on them.[71] This is in contrast to the drawings of Christ Church where Wild clearly indicated where coloured materials were to be used. The one drawing (Fig. III.34) which does show colour indicates stone voussoirs alternating in colour on a simple a-b-a-b basis while the extrados of the arch and cusped ornament is defined by a lighter coloured stone, this being emphasised by inlaid coloured segments. A photograph taken during a recent visit to St Mark's (Fig. III.35) [72] indicates that the window arches followed Wild's design in every respect short of the use of different coloured stones.

It is apparent from Wild's sketchbooks that he regarded colour as an important element in Islamic ornament, always recording it in watercolour or making notes and so it is curious that colour did not play a part in the constructed building. One possible explanation is that the local Anglican community were concerned that if the ornament was too faithful to the Islamic original and included colour it would take on the appearance of a mosque. Colour was such an important element in Islamic ornament that its omission would avoid the association and make the ornament more acceptable to the majority of British residents.

It is interesting to speculate on whether the different coloured materials shown in the drawing of the window bay would have been used had Wild maintained control of

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[69] *Builder,The* (1846): Vol. IV, (5 September), p.421

[70] V&A, P&D Dept. Acc.No. E.3800-1938 and E.3801-1938

[71] This information has been supplied by the Parish priest and chaplain to St Mark's and All Saint's, the Rev. Robert Braun, for whose help I am most grateful.

the project, but a shortage of funds meant that construction work was severely delayed and long before the building was completed in 1854, Wild had in 1847 returned to England.

Instead of taking the most direct route back to England Wild used his homeward journey as an opportunity to carry out further research into architectural ornament and visited Turkey, Greece, Italy and Spain. Many of the sketches which he made during his journey have come into the possession of the Victoria and Albert Museum and are further evidence of his desire to record and analyse examples of early ornament, both Christian and Islamic. He produced a large number of sketches whilst in Pompeii and Rome, examples of which are those of polychromatic mosaics in the Roman churches of St Caesario and St Nereo and Achilleo with simple geometric patterns in red, blue, gold and white (Figs. III.36 and III.37).

Shortly after returning to London Wild was successful in winning a competition for the St Martin's Northern School in Castle Street, Long Acre. After Streatham this building can be regarded as his most successful built achievement but since it was destroyed by bombing during the Second World War we have only John Summerson's description in the *Architects' Journal* of January 9, 1929 by which to judge it.

> 'A plain school frontage in a narrow side street gave Wild the opportunity of showing that he could produce a façade of great beauty with only the simplest means at his disposal. The vigorous arcuated treatment of the lower storeys and the crowning arcade of Caen stone form a fine rhythmic composition, wonderfully taking in a narrow street, while the details are interesting and reminiscent of Italian work. The top storey, now glazed, was formerly intended as an open playground for the school children'.[73]

Wild confirmed his reputation further as an innovative architect with a major structure in Grimsby, the great water tower in the docks, built between 1851-52. Pevsner describes it:

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[72] Photograph taken during 2000 by Kathryn R. Ferry who has generously provided me with photographs of the interior and exterior of St Mark's.

'The Dock Tower....is the most memorable building in Grimsby, a landmark and a seamark for many miles, brother of the tower of Siena Town hall and hence elder brother of Birmingham University. Wild is an unconventional architect, best known for Christ Church Streatham, South London, designed in 1840. Between 1842 and 1848 he travelled widely in Egypt, Syria and southern Europe, gathering in his sketch books ideas of which he put some to use here in Grimsby: the tower, as has been said is straight from Italy, but the crowning minaret is oriental. It was built as part of the hydraulic system to open the lock gates and operate cranes. Of red brick, 309 ft tall, taller than Lincoln Cathedral, it rises in an unbroken line to the corbelled out top, surmounted by a further section again with a corbelled out top'.[74] (Fig. III.38)

This was to be the last of his individual built projects however, for in 1851, just after he had been appointed 'decorative architect to the Great Exhibition', his health broke down completely and he was compelled to retire from practising on his own account.[75]

Conclusions

Summerson's verdict on Wild as an architect that he 'was a modernist in the truest sense of the word'[76] seems to apply equally well to his interest in the part which colour could play in architecture. Like Owen Jones, Wild seems to have thought about the way colour can be used on a building so as to influence the way it is perceived by the human eye rather than it being introduced for some symbolic purpose. He also shared with Jones that way of seeing colour as something which is part of the substance of a building, rather than something which is just applied to its surface. It seems to make no

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[73] SUMMERSON: p.59

[74] PEVSNER, NIKOLAUS and HARRIS, JOHN (1989 rev.): *The Buildings of England: Lincolnshire* (Harmondsworth: Penguin, 2nd ed) p.343

[75] Wild's retirement from active practice on his own account did not, however, lead to him ceasing work as an architect. *The Survey of London Volume XXXVIII, The Museums Area of South Kensington and Westminster* records the part which he played in the major expansion of the South Kensington Museum (Victoria and Albert Museum) during the years 1863 to 1871. From 1851 he was retained by the museum as their expert on Arabian art but from 1863 he became a member of the museum's architectural department which was under the direction of Captain Francis Fowke (1823-65). Upon the death of Fowke in 1865 Wild became the chief assistant to Fowke's successor, Major-General Scott as architect of the South Kensington buildings and the Bethnal Green Museum until 1871. During this period Wild seems to have been Scott's right-hand man in matters of design and evidently had sole responsibility for the Eastern and Western Galleries (now demolished), as well as the Bethnal Green Museum. He is also credited with playing a major part in the design of the Huxley Building (1867-71) (now the Henry Cole Building).

[76] SUMMERSON: p.62

difference that it was the need for economy of construction which prompted him to adopt constructional polychromy at Christ Church Streatham in the first place. After all, history is full of examples of innovation, for example, in methods of propulsion and manufacturing which have been developed so as to satisfy the needs of economy. While the evidence suggests that it was Wild's idea to introduce ornament in the brickwork by using different coloured bricks it remains unclear to what extent the executed design relied upon recommendations by Jones and Bonomi. We know that Bonomi offered advice which led to development of a design to the caveto cornice but we can only suspect that the 'Saracenic' arches were introduced as a result of suggestions by one of them.

In its manner of execution the constructional polychromy performed an important function in that it provided a visual unity between various architectural elements . Wild's way of working was to take features from colour practices of many kinds and to use them for purposes appropriate to the project in hand, without regard to their historical origins. He showed great originality in this approach and was the first practising architect to adopt such a completely eclectic way of employing colour, not showing any obligation to the traditions of either Gothic or Classical or Islamic architecture. There is no desire to revive any particular style of architecture, instead he chose to use elements from all styles as appropriate to the project in hand. In this way his ideas anticipated the 'modern' approach of Owen Jones, and moreover he was able to realise them in his built works.

Although the building was designed before Owen Jones had defined his General Principles in the Arrangement of Form and Colour in Architecture as set out in *The Grammar of Ornament* it provides a good example of some of the Principles being put into practice. *Principle Five*: Construction should be decorated. Decoration should never be constructed follows from the fact that all the decorative brickwork is an

essential part of the structure. *Principle Eight*: All ornament should be based upon a geometrical construction likewise follows from the decoration being formed within the modular grid of the brick bonding. *Principle Fourteen*: Colour is used to assist in the development of form, and to distinguish objects or parts of objects one from another, may be seen to be at work at small scale and at large scale. At small scale we see the colour variegated voussoirs giving form to the arches and at large scale we see the various elements in the building's composition distinguished from each other by the use of colour. *Principle Fifteen*: Colour is used to assist light and shade, helping the undulations of form by the proper distribution of the several colours, is well demonstrated by the arched portal on the west front.

Various writers, including Summerson, Hitchcock and Jackson, have noted the historical importance of Christ Church, Streatham, since its use of constructional polychromy anticipated High Victorian polychromy by nearly ten years. It has also been noted that the design of the building received Ruskin's approval in *The Stones of Venice*[77] ten years later in 1851. The fact that the building can be discussed both in the terms of Jones's 'General Principles' and of Ruskin's attitudes to the use of colour in buildings gives it a unique transitional role in that it forms a bridge between the colour theories of two individuals whose ideas were in many respects in conflict with each other. This theme will be further explored in Chapter V.

Wild's sketchbooks provide further evidence of a new breed of architect/archaeologist who was committed to 'an ideal of precise factual recording'.[78] The form which these notes and sketches were prepared, often with the colours painted in or noted, indicates that they were intended for essentially practical purposes rather than for their visual qualities. This more scientific approach in which the objective was

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[77] RUSKIN *Stones of Venice I*, Works IX, pp.349-50
[78] CRINSON: p.102

to gain proper understanding of the subjects under study was in contrast to the work of an older generation more interested in producing sketches which were intended to give an overall visual impression of buildings or places to other people.

Fig.III. 1 Holy Trinity, Coates, Cambridgeshire: east facade

Fig. III. 2 Holy Trinity, Coates, Cambridgeshire: west facade

Fig. III. 3 Holy Trinity, Coates, Cambridgeshire: interior, east end

Fig. III. 4 Holy Trinity, Coates, Cambridgeshire: interior, west end

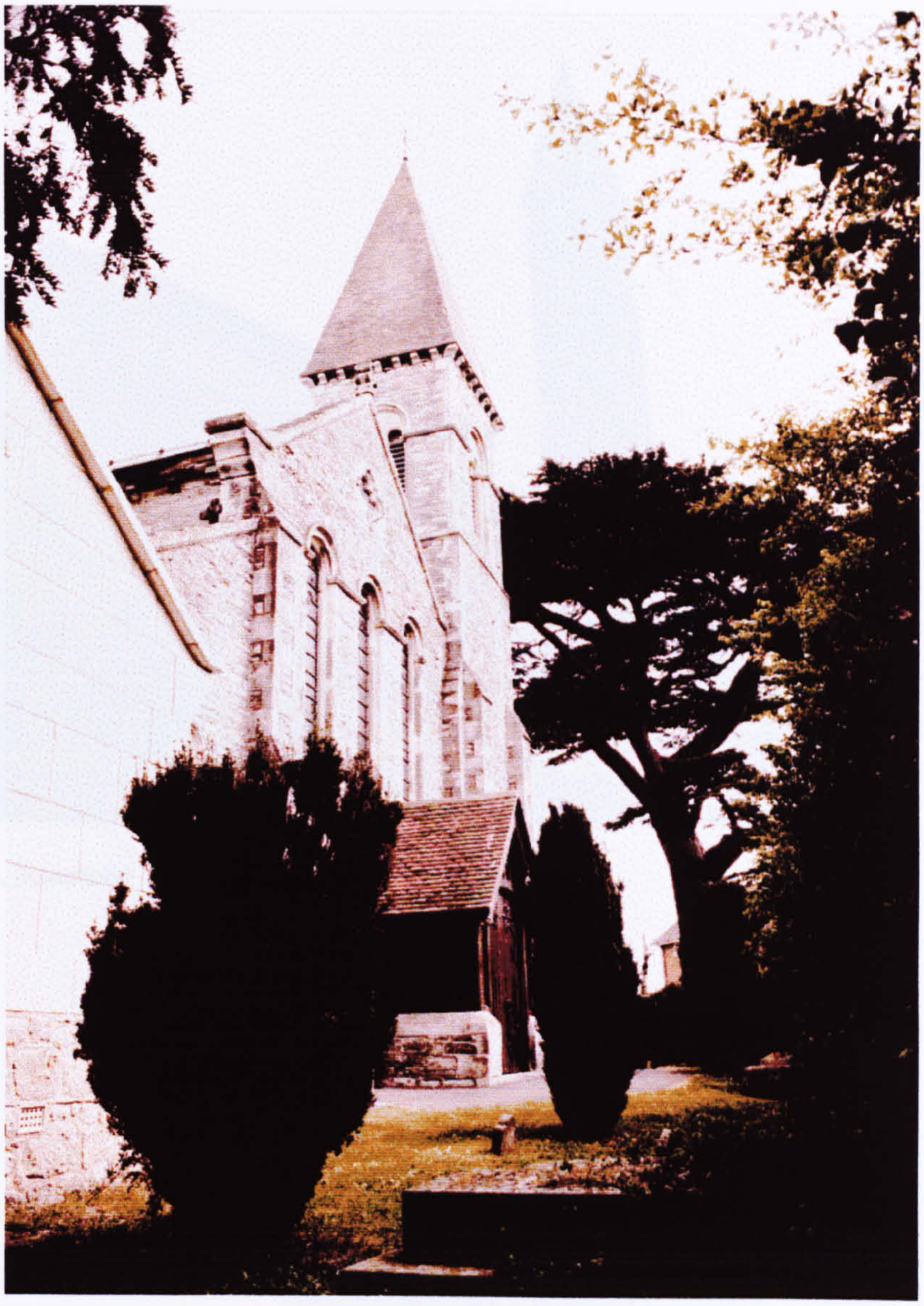


Fig III. 5 St Paul's Newport, IOW View of West end

Fig.III. 6 Christ Church, Streatham: view from north - west

Fig. III. 7 Christ Church, Streatham: entrance portal on west facade

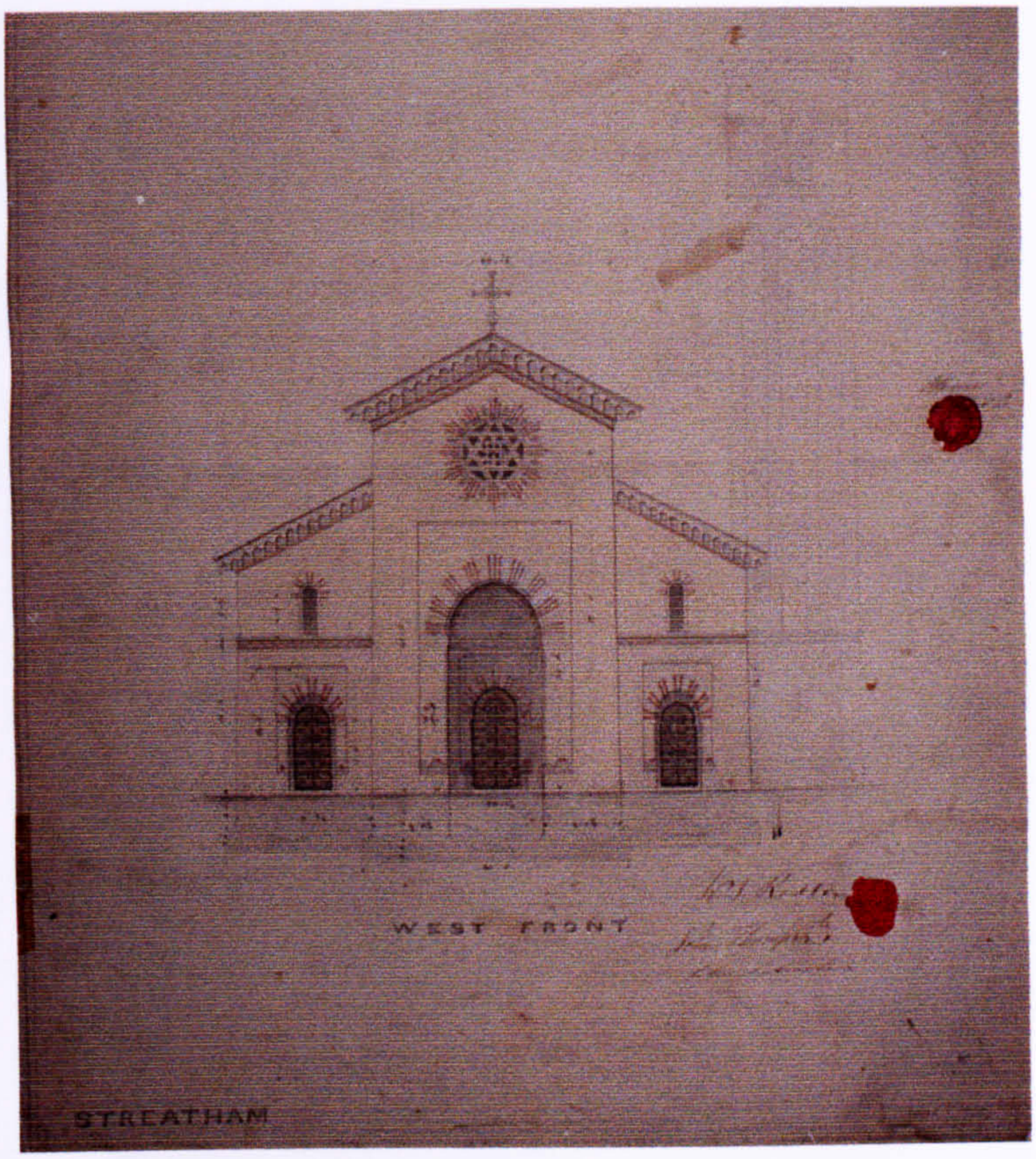


Fig .III. 8 Christ Church, Streatham; early design for west facade

Fig. III. 9 Christ Church, Streatham: sketch of west facade

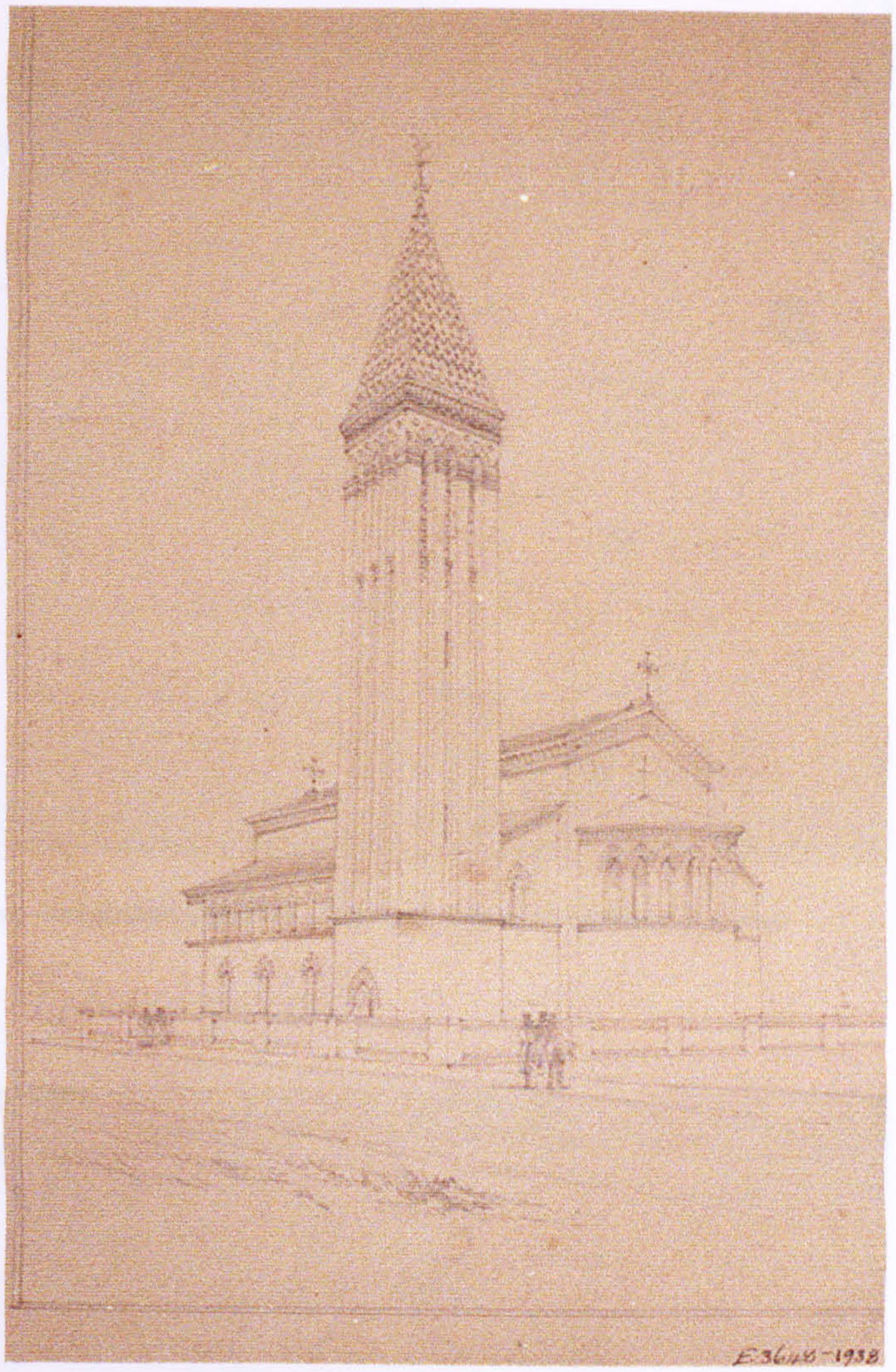


Fig. III. 10 Christ Church, Streatham: perspective view from south-west

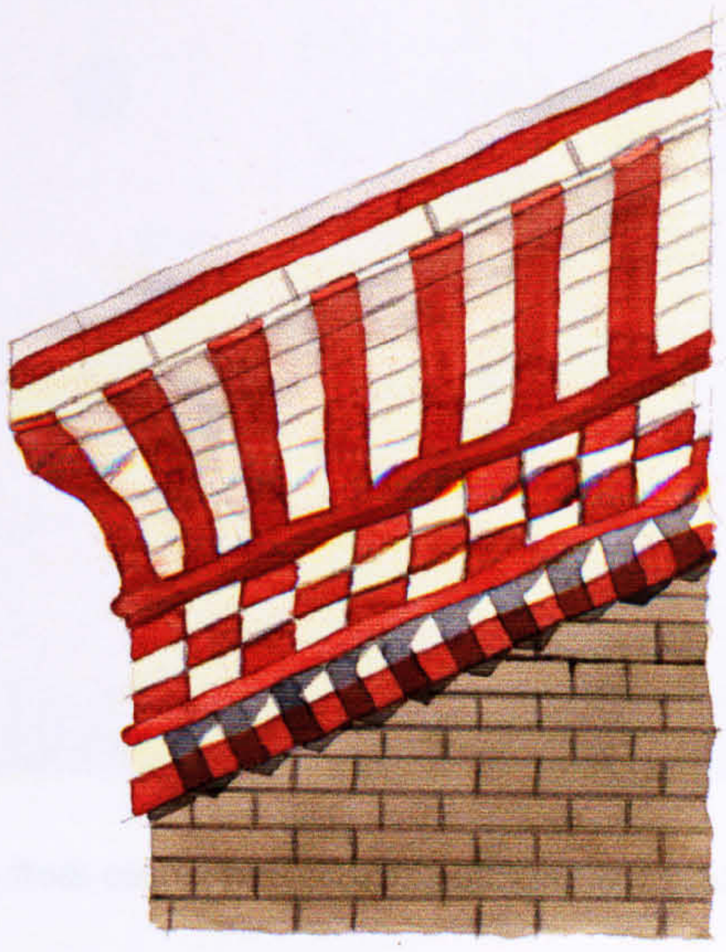


Fig. III. 11 Christ Church, Streatham: sketch showing colouring of caveto cornice

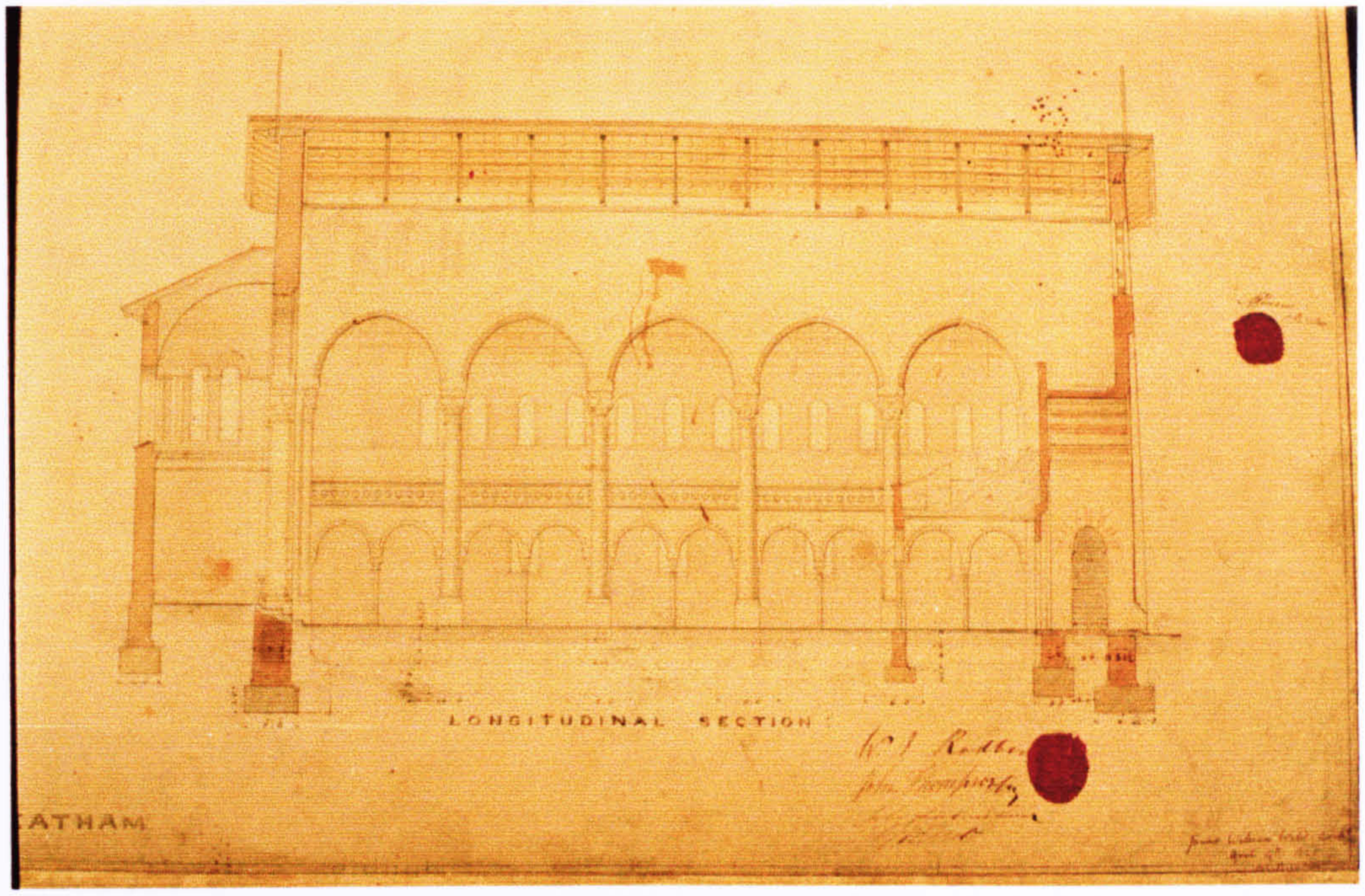


Fig. III. 12 Christchurch, Streatham: longitudunal section of nave as shown on contract drawings

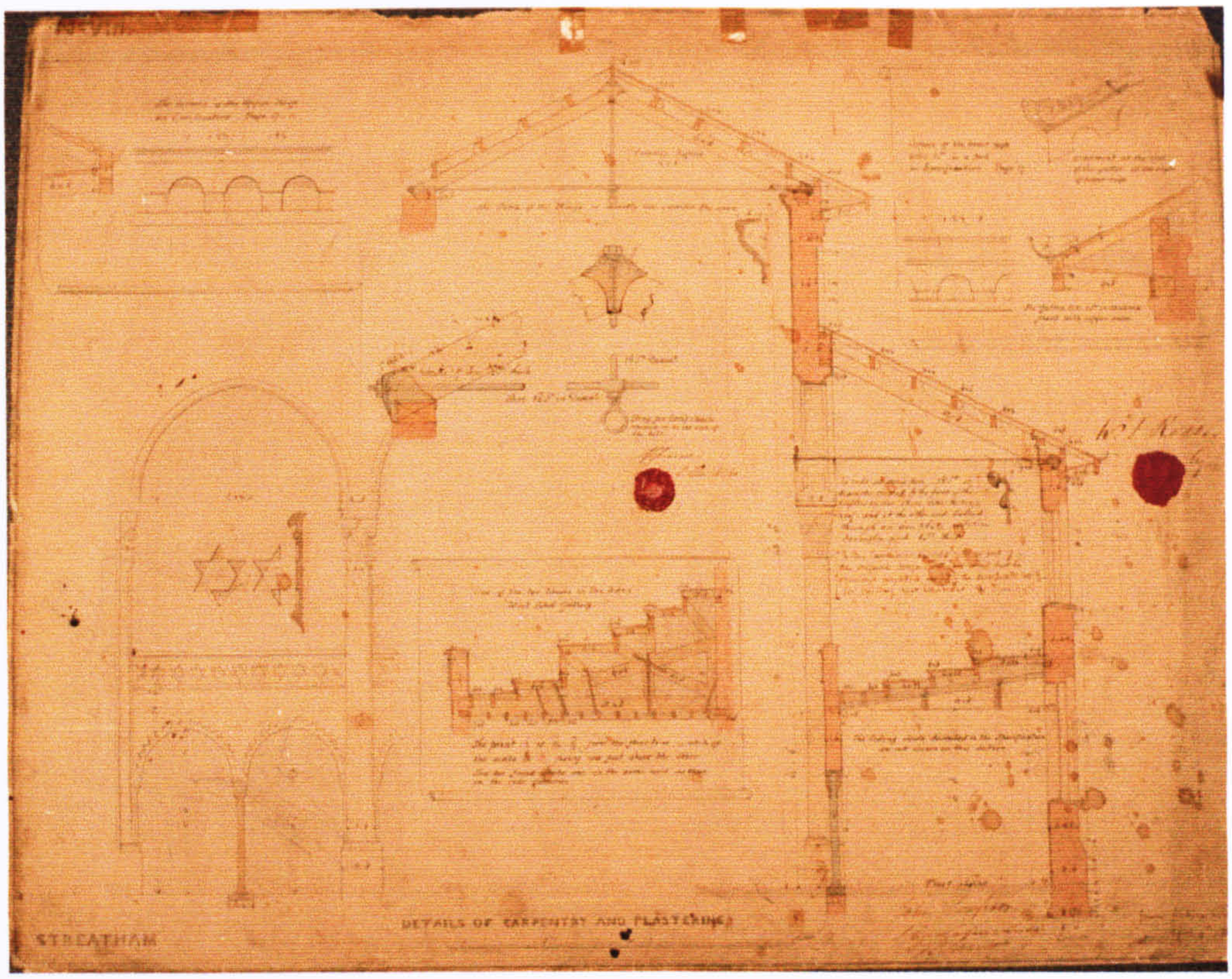


Fig. III. 13 Christchurch Streatham: detailed drawing from contract set showing decoration of gallery arcade

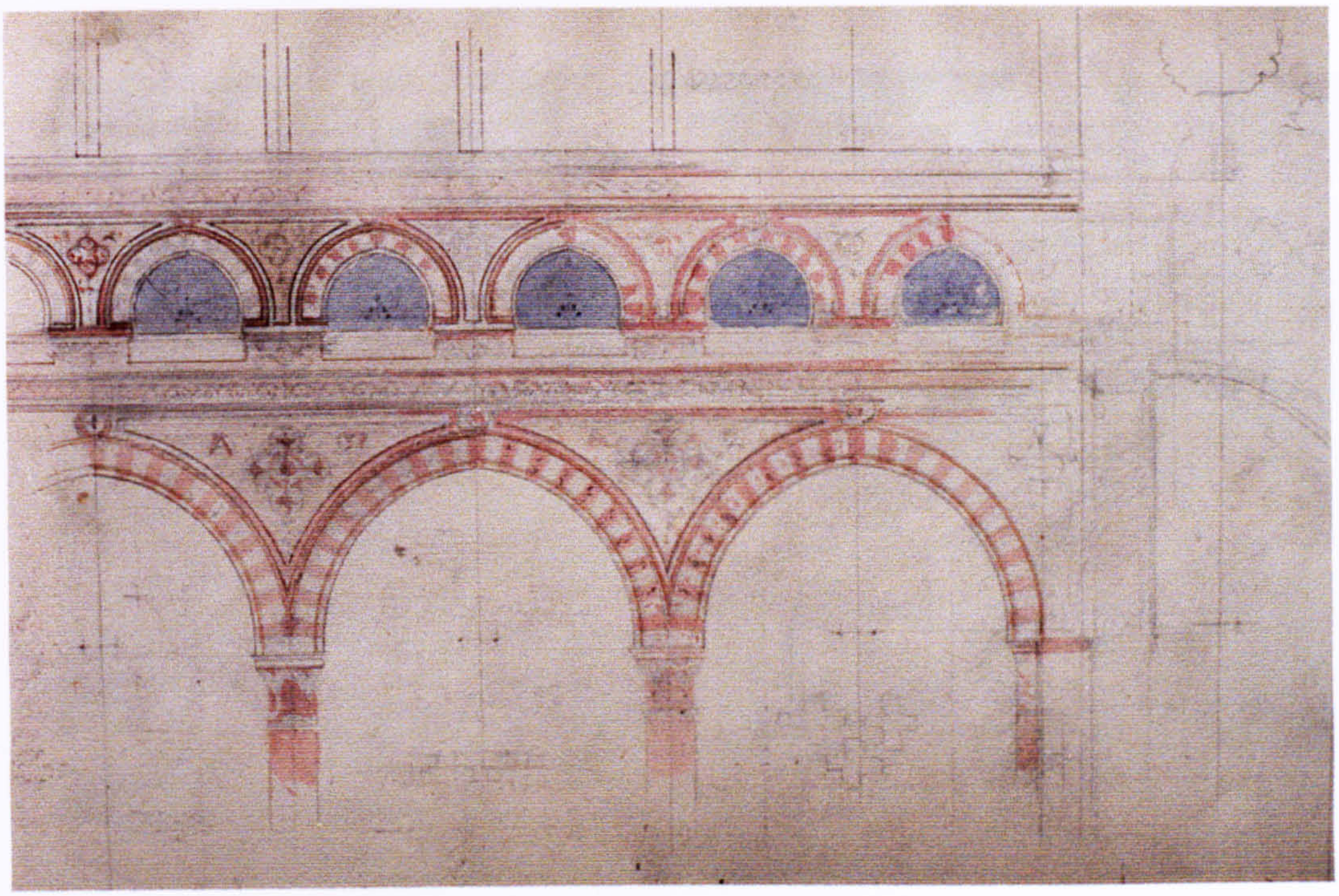


Fig.III. 14 Study for internal bay of a church based on the mosque of Mihrimah Djami, Istanbul

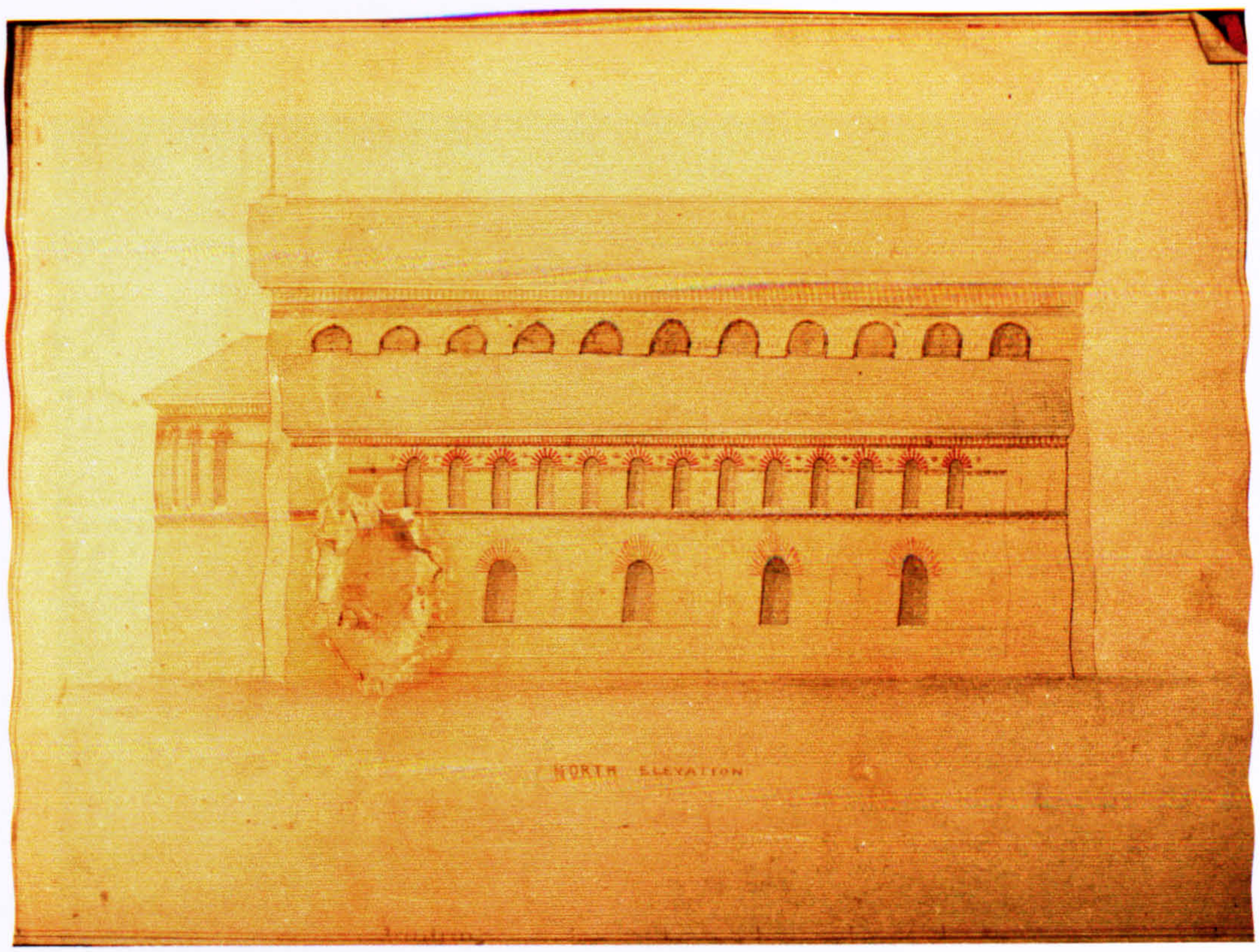


Fig. III. 15 Christchurch Streatham: drawing of north elevation from contract set

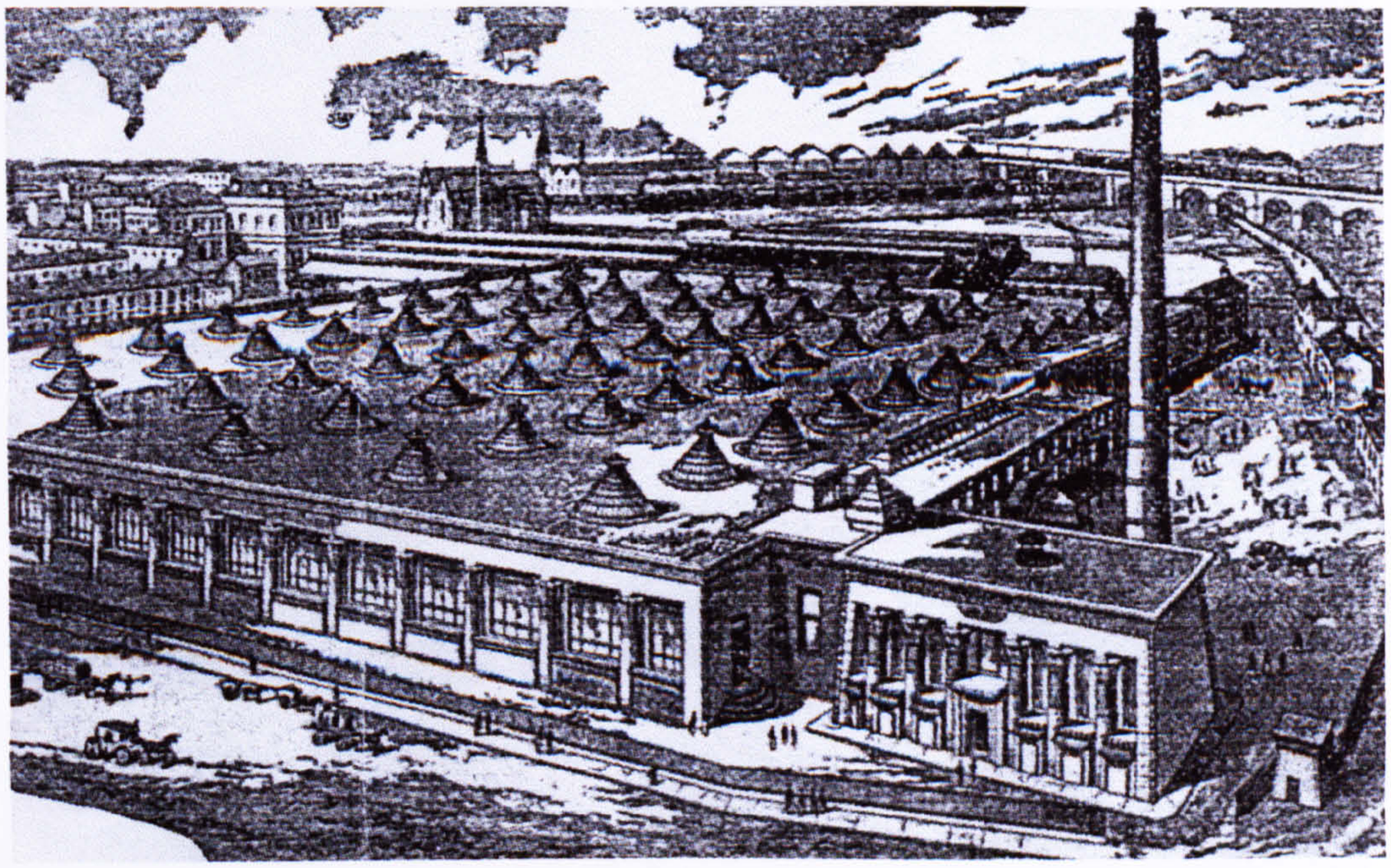


Fig. III.16 Illustration of Marshall's flax mill, Leeds: architect, Joseph Bonomi

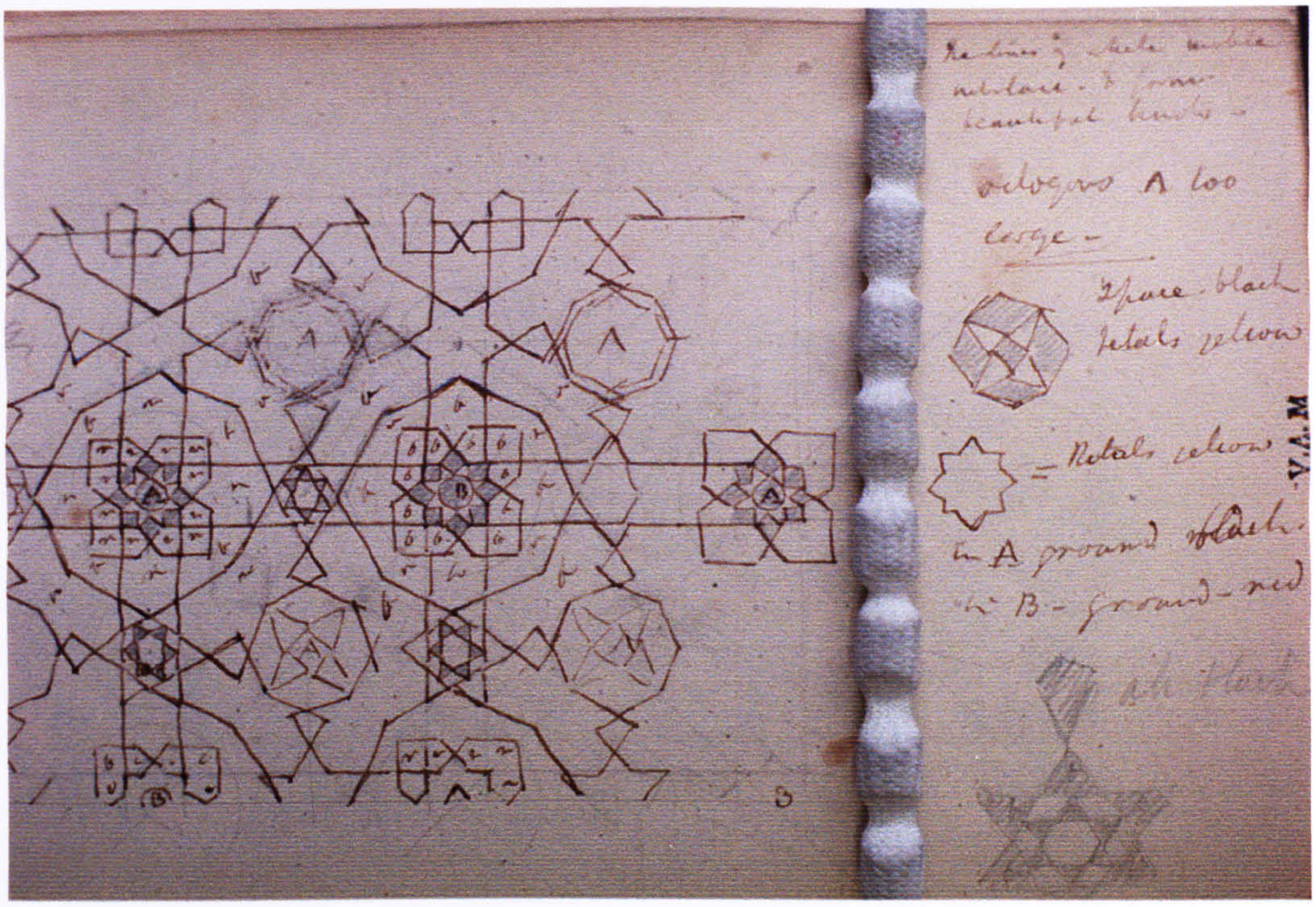


Fig. III.17 Leaf from James Wild's sketchbook with references to colours

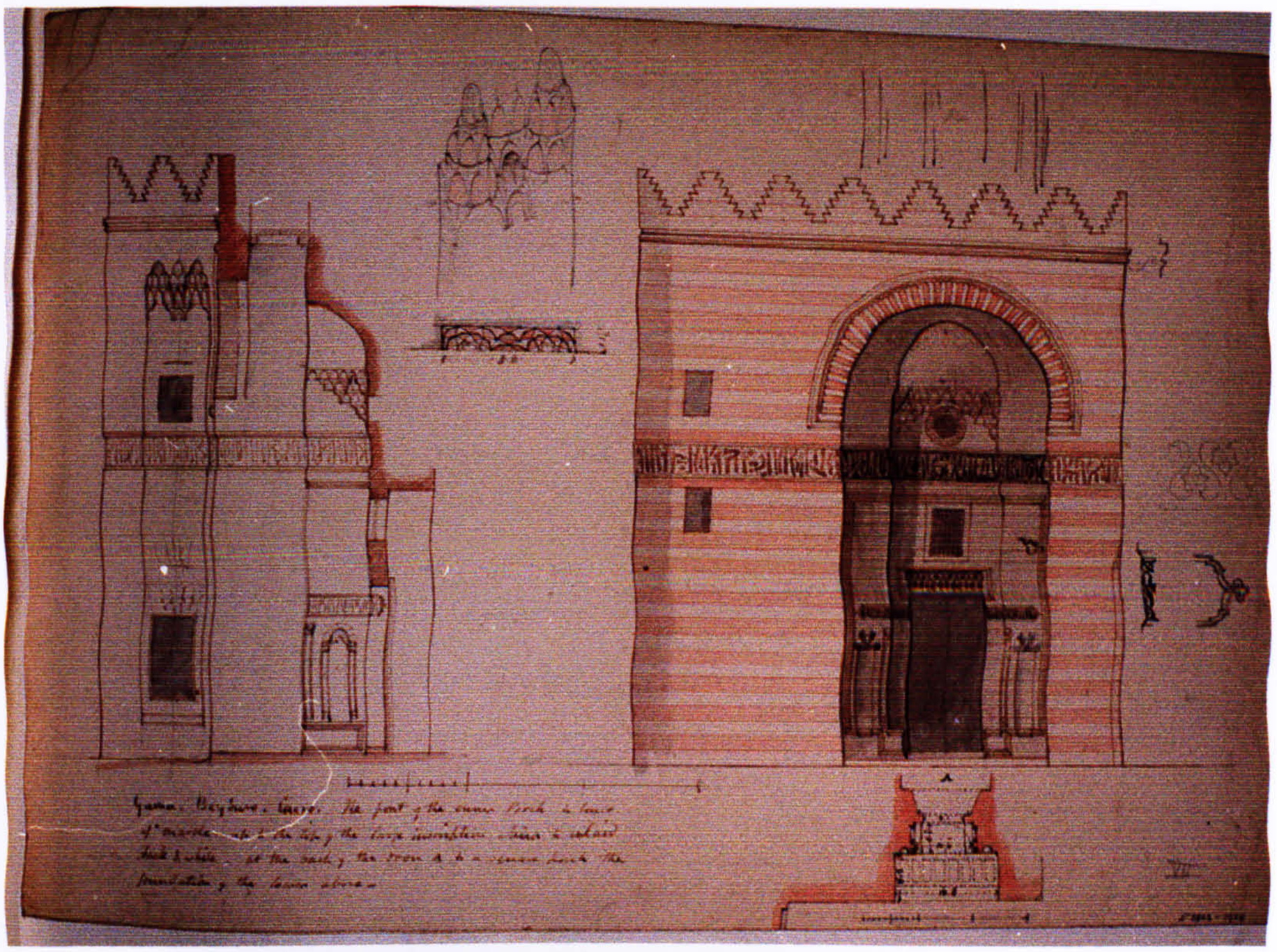


Fig.III. 18 Gama Beyburs, Cairo: external polychromy

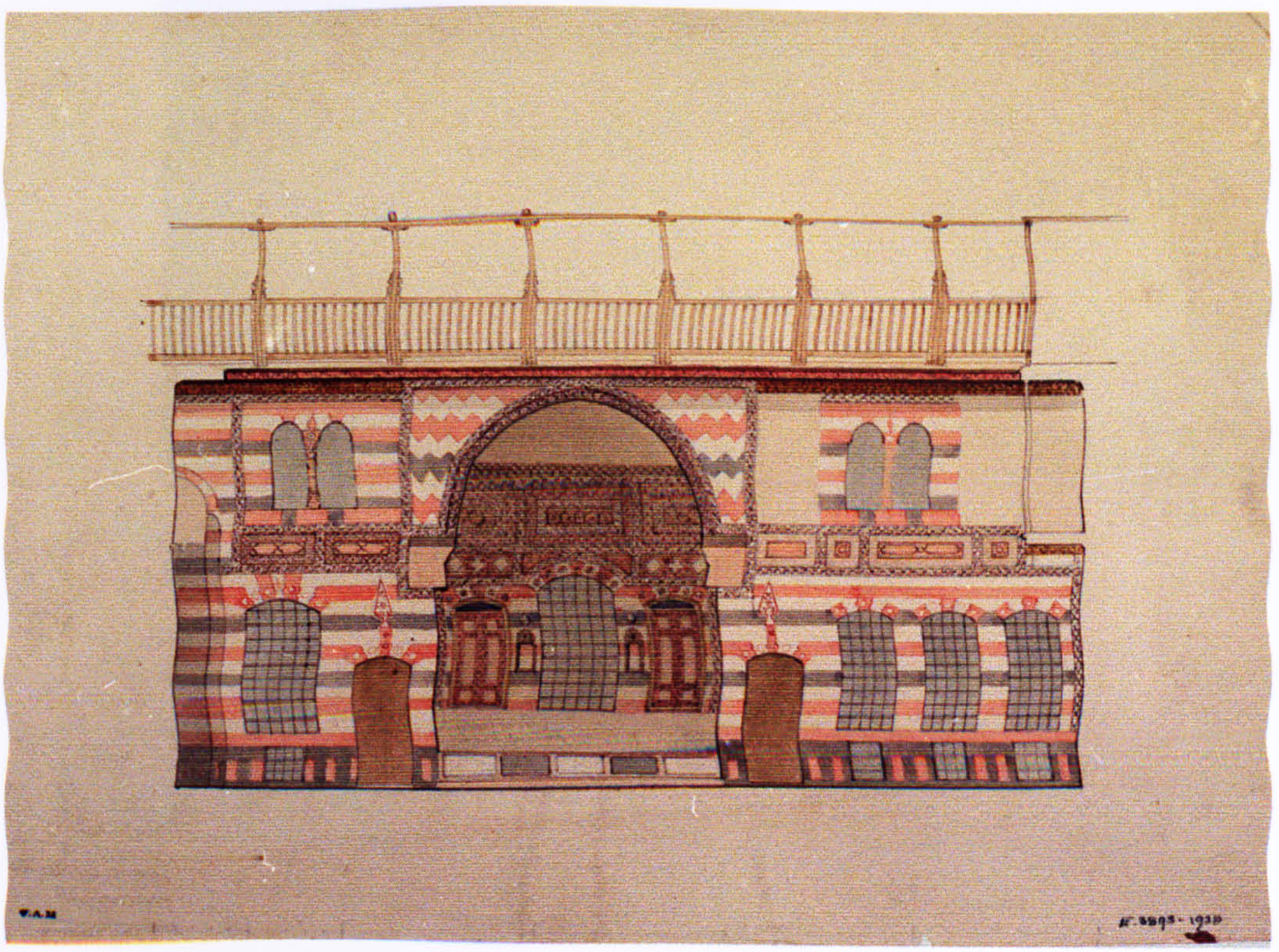


Fig.,III. 19 Mr Robson's house, Damascus: external polychromy

Fig. III.20 Interior of mosque, Sultan Hasan, Cairo

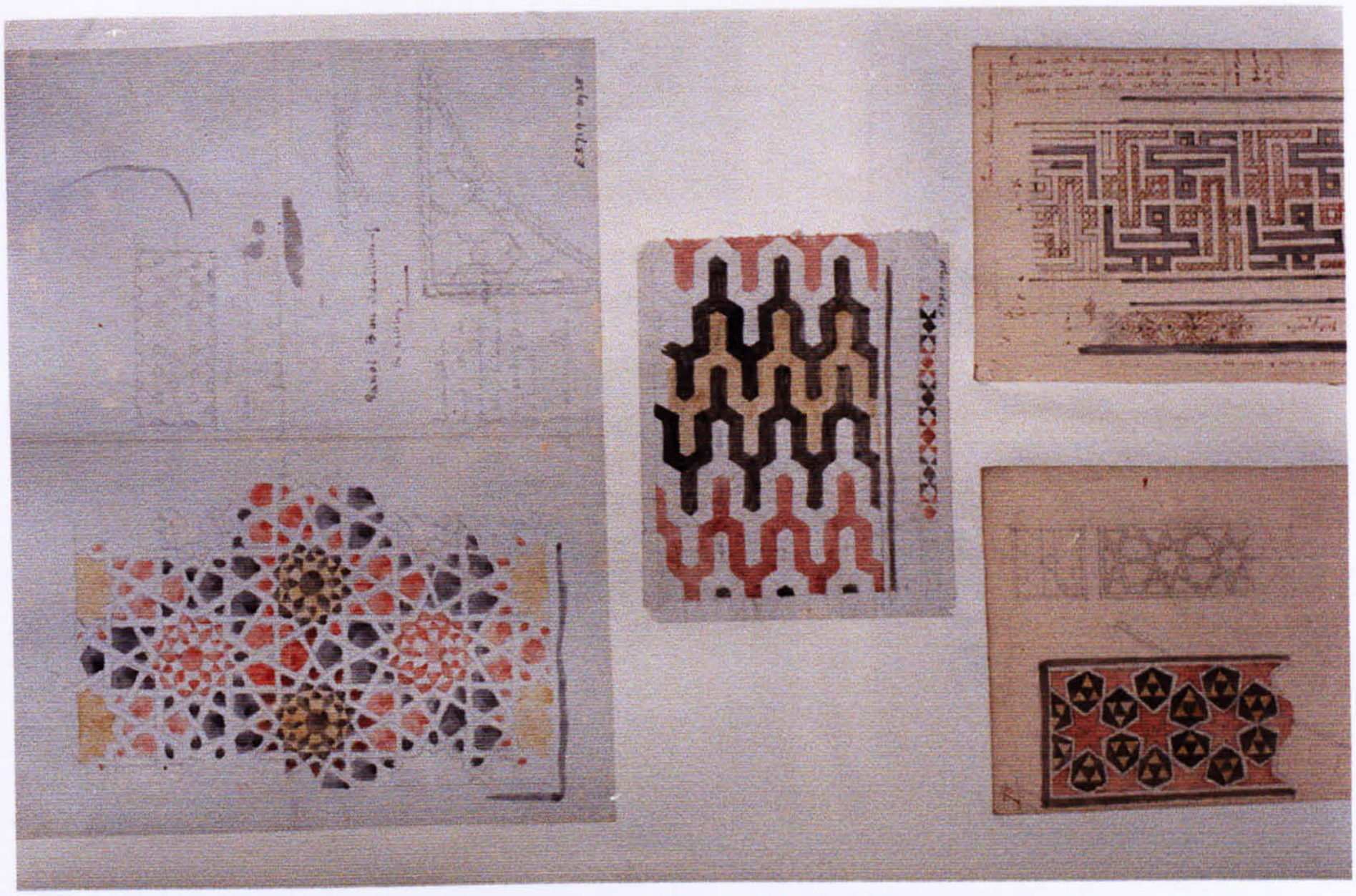


Fig. III. 21　Studies of Cairene mosaics (1)

Fig. III. 22　Studies of Cairene mosaics (2)

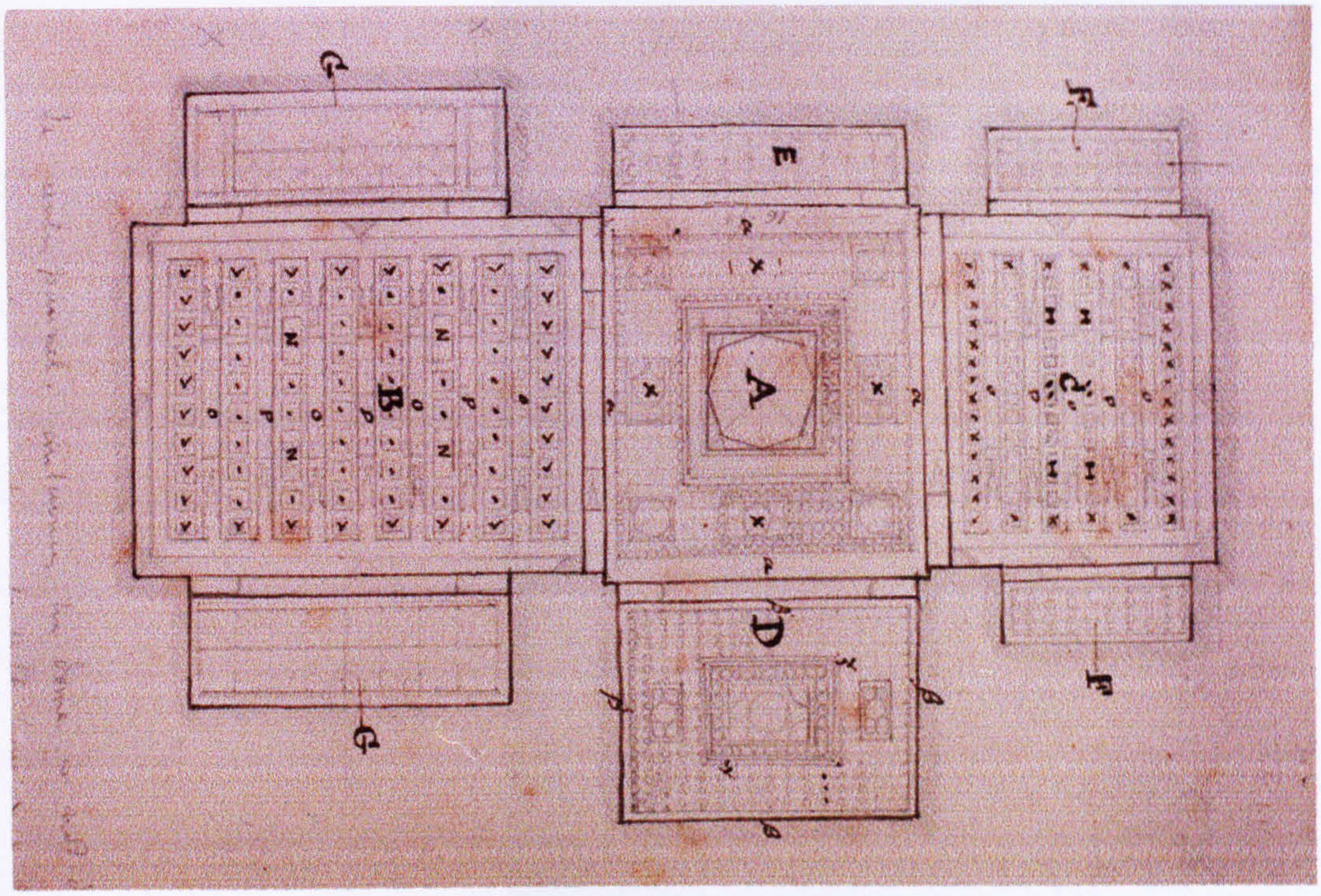


Fig. III. 23 Gama el Ghoury, Cairo: general ceiling plan

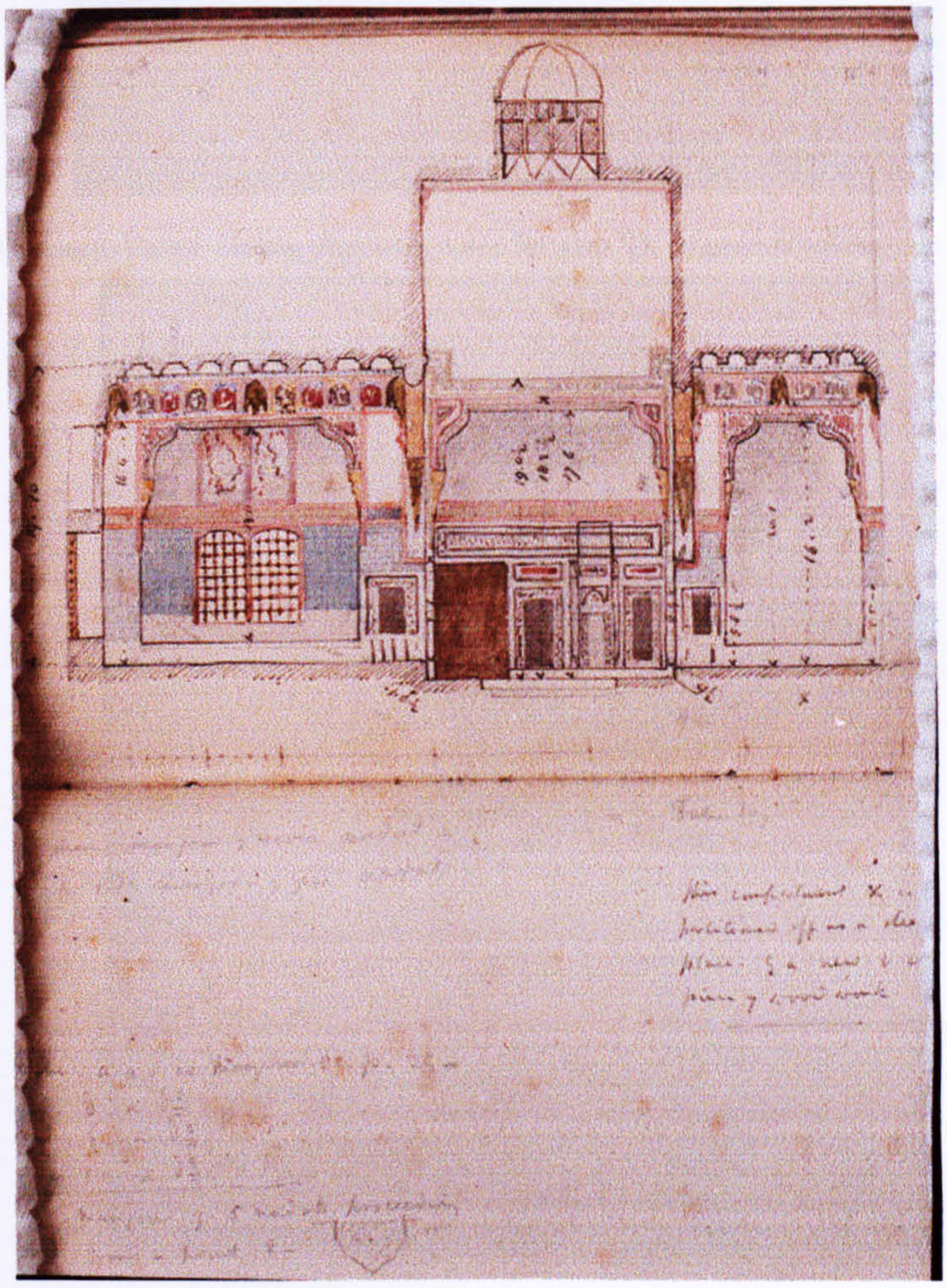


Fig. III. 24 Gama el Ghoury, Cairo: longitudunal section

Fig. III. 25 Gama el Ghoury, Cairo: ceiling plan with notes for area 'D' of general ceiling plan

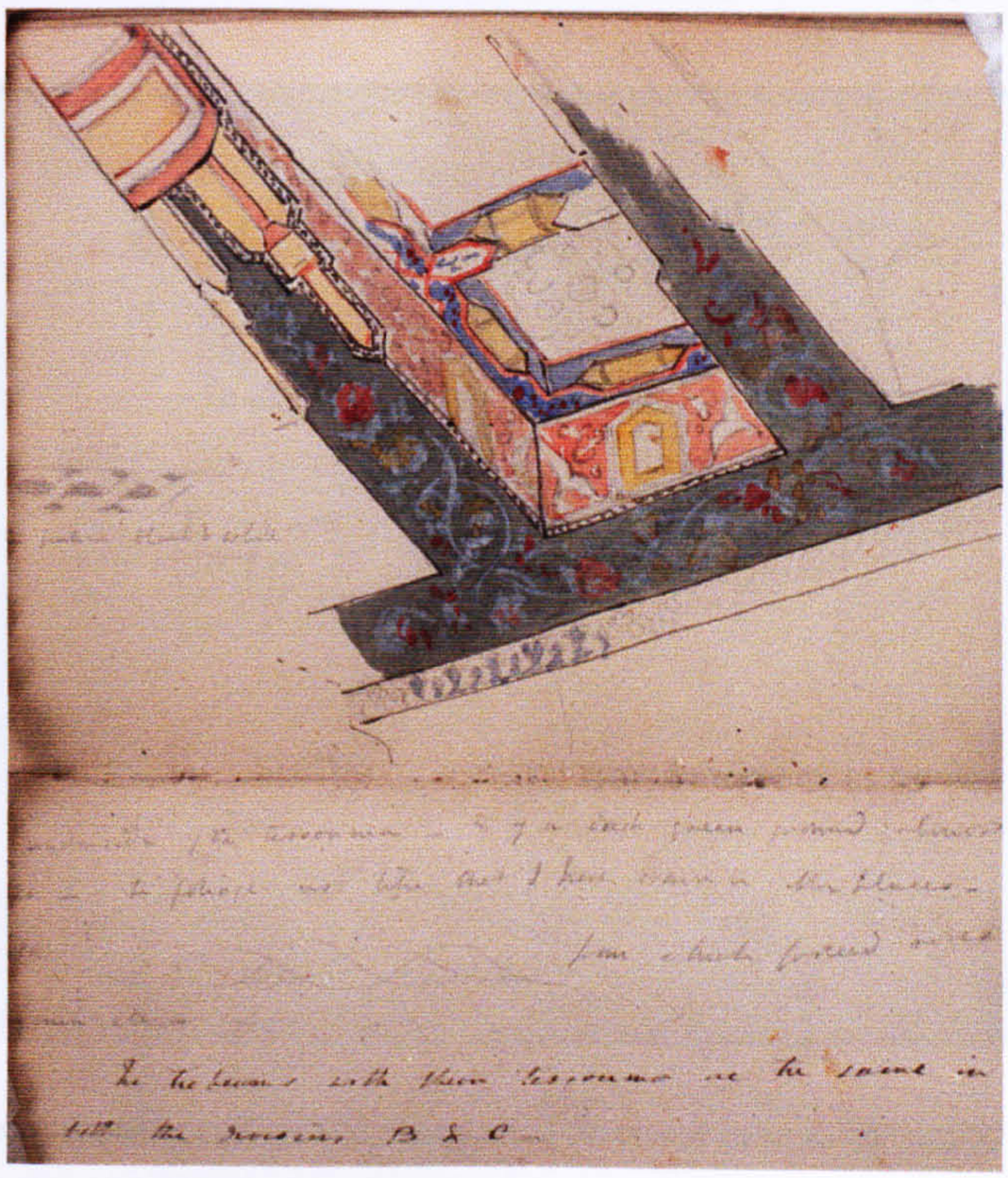


Fig. III. 26 Ghama el Ghoury, Cairo: sketch showing colours and decorative treatment of tie beams in areas 'B' and 'C'

Fig. III.27 Gama el Ghoury, Cairo: sketch showing colours and ornament of tie-beams in areas 'B' and 'C'

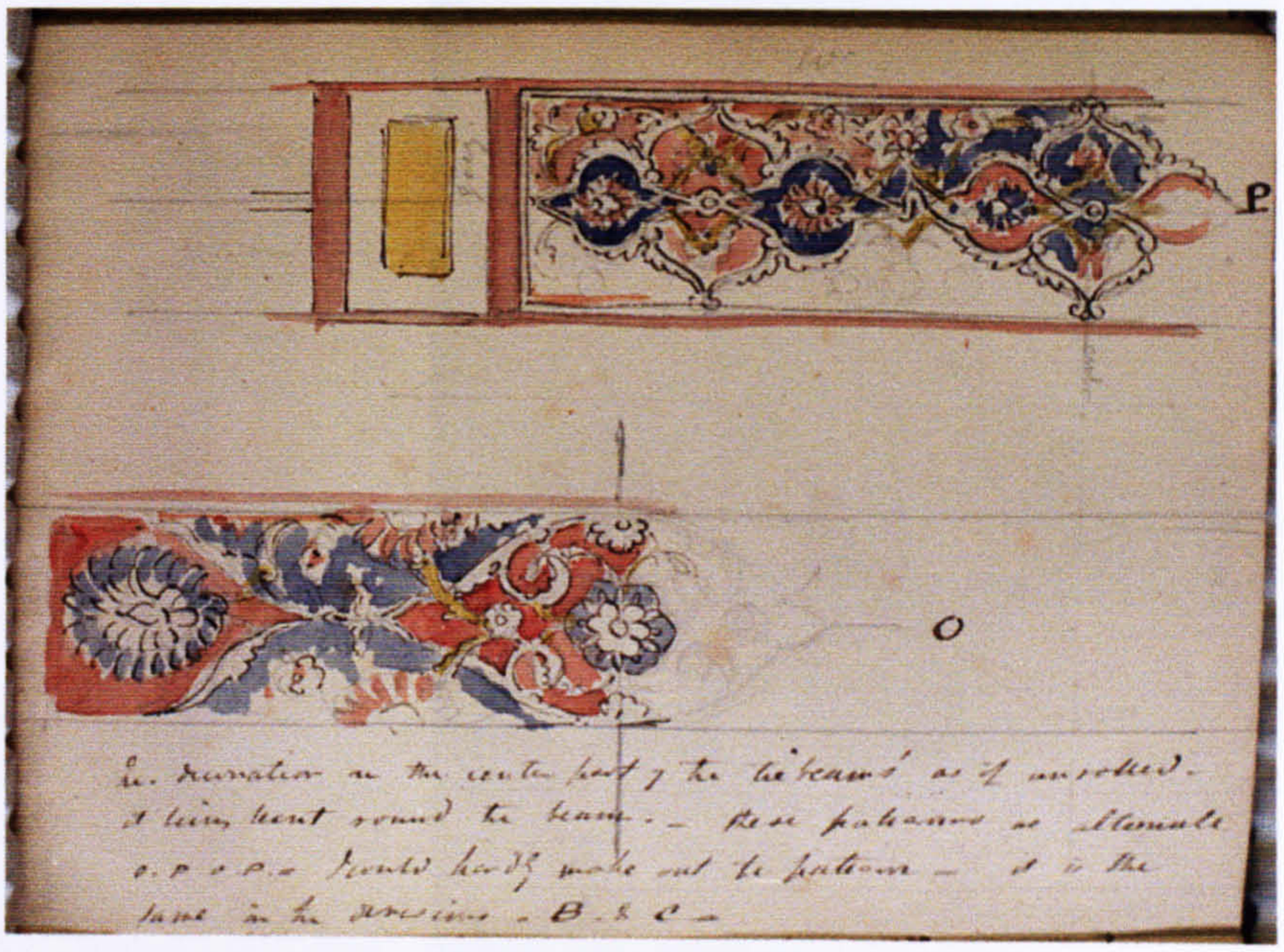


Fig. III. 28 Ghama el Ghoury, Cairo: sketch showing colours and treatment of tie-beams in areas 'B' and 'C'

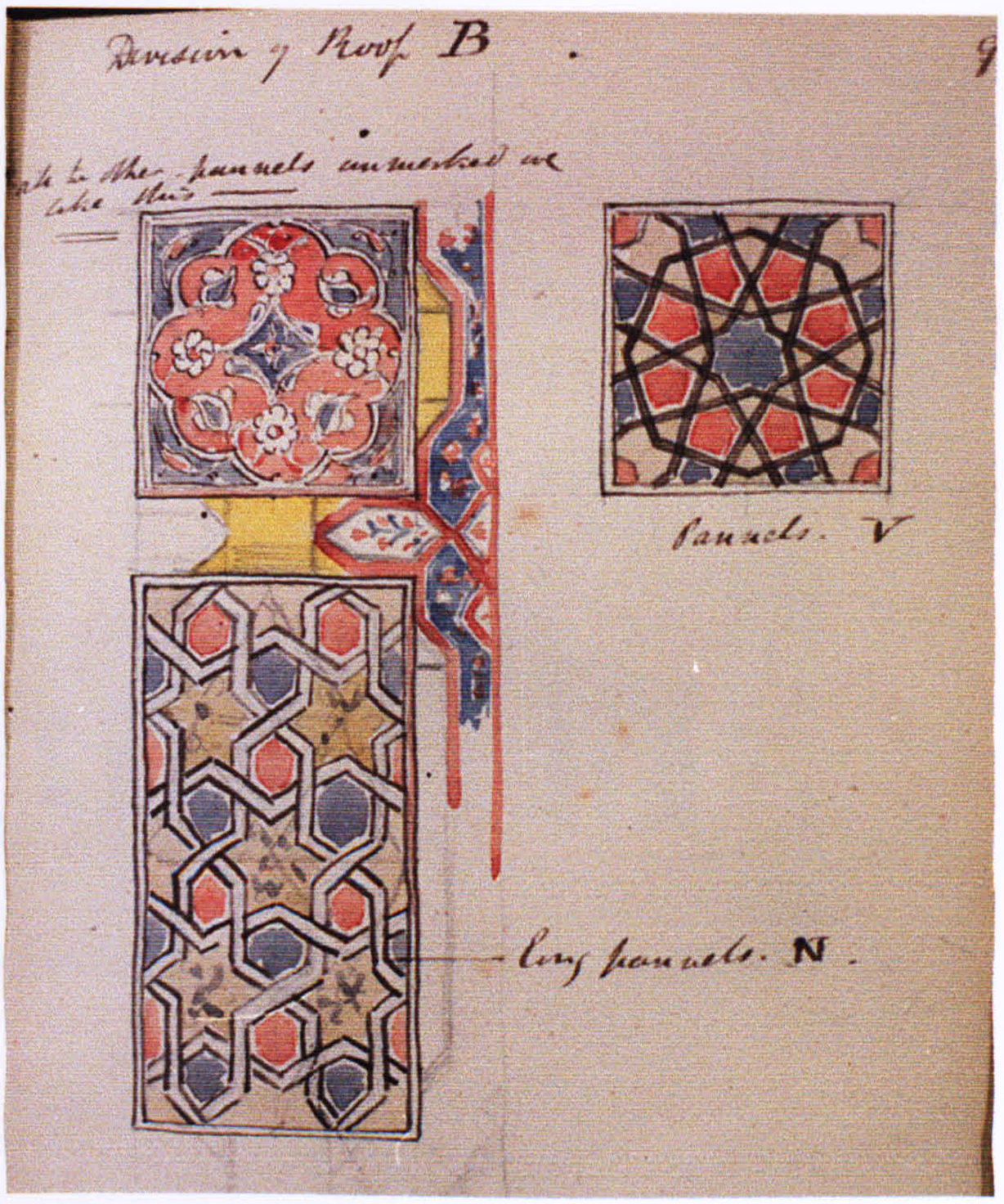


Fig. III. 29 Gama el Ghoury, Cairo: sketch showing colour and treatment of panels between tie-beams in area 'B'

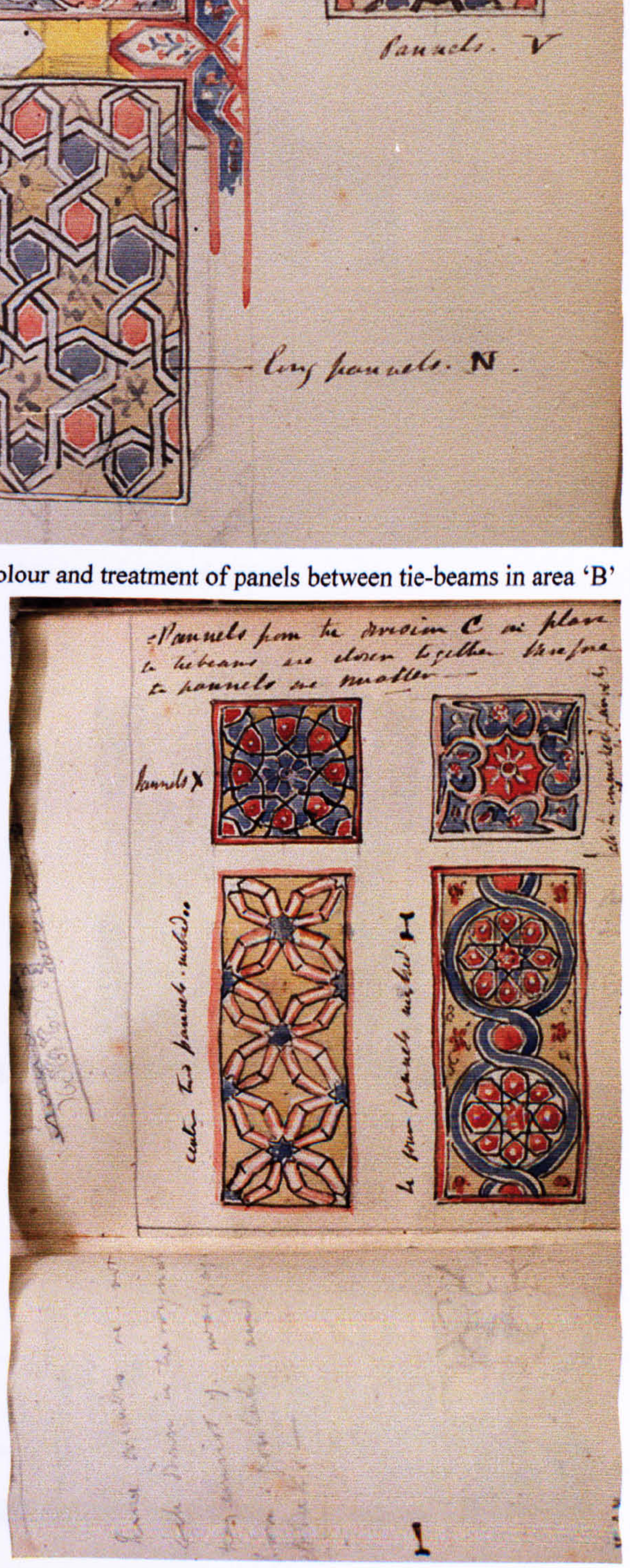


Fig. III. 30 *Gama el Ghoury, Cairo: sketch showing colour and treatment of panels* between tie-beams in area 'C'

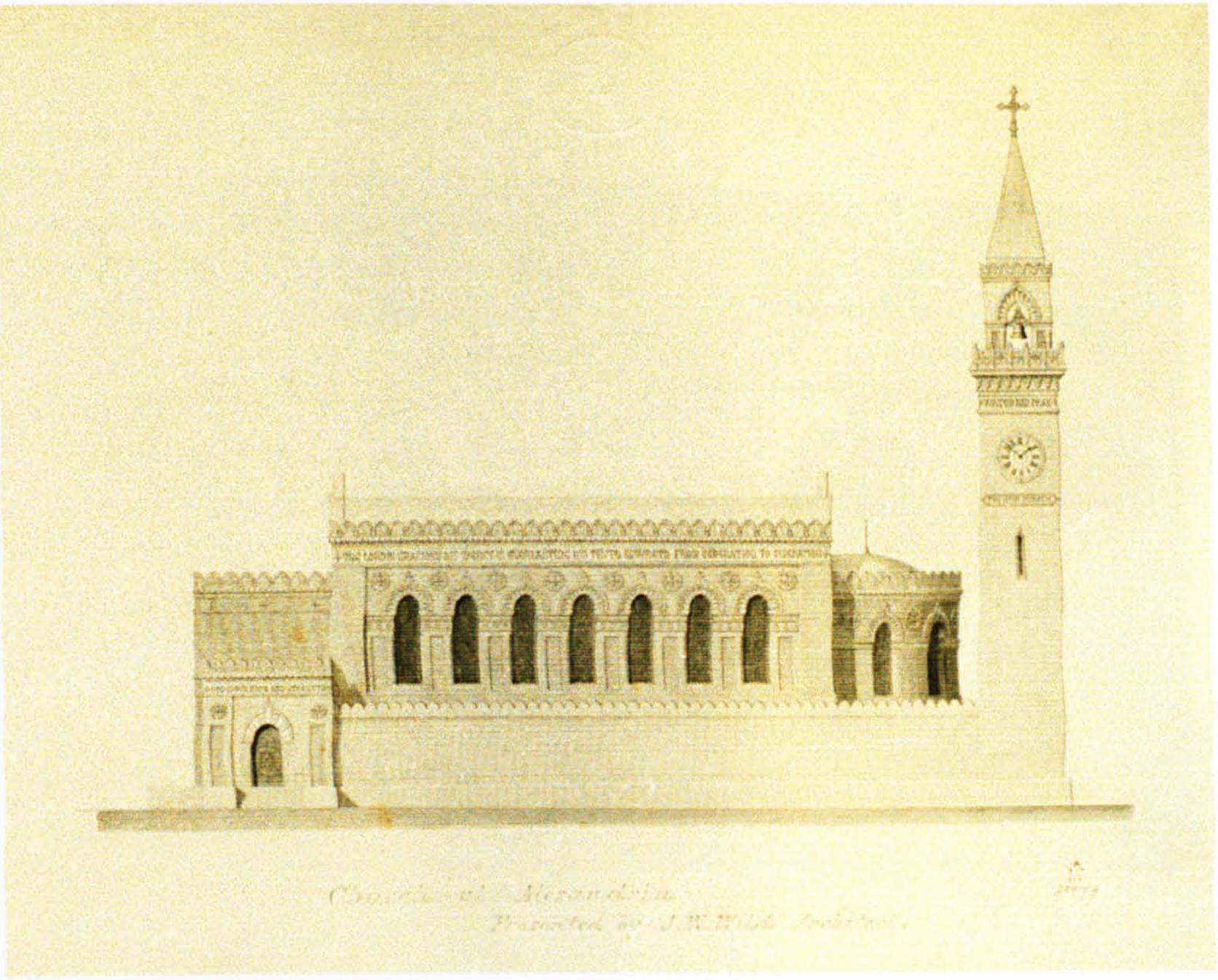


Fig. III. 31 St Mark's Church, Alexandria: drawing of south elevation

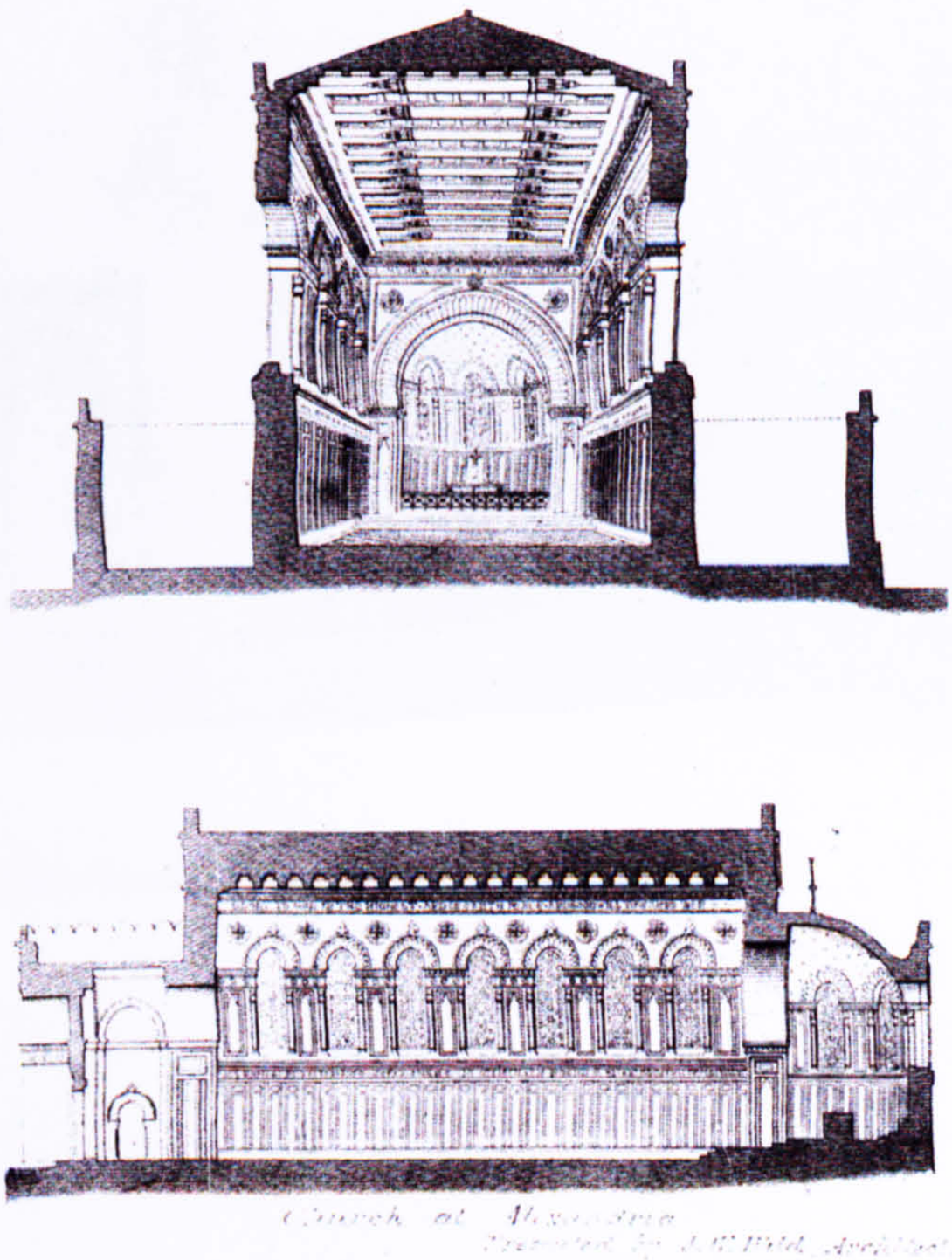
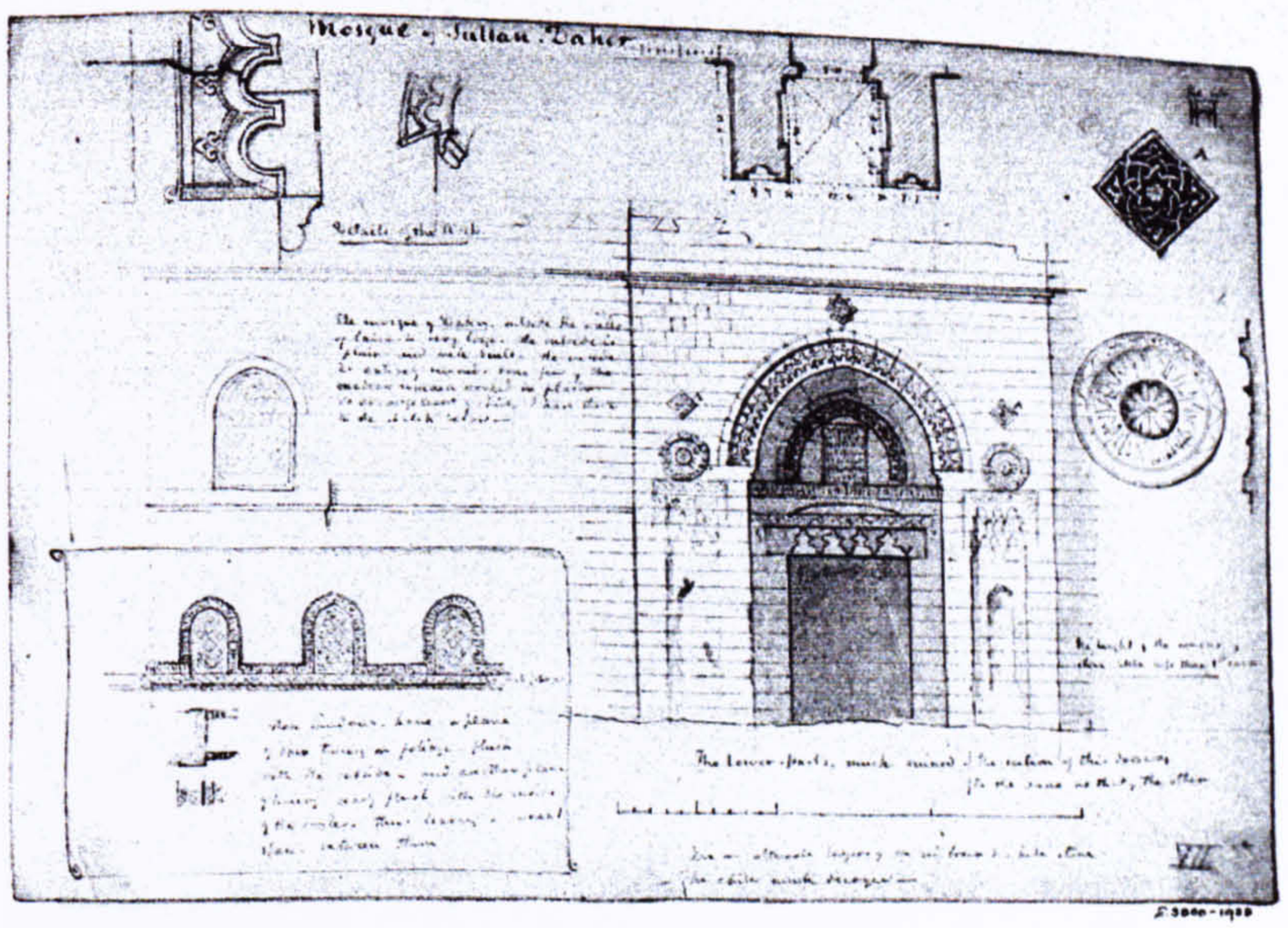


Fig. III.32 St Mark's Church, Alexandria: engraving of sections



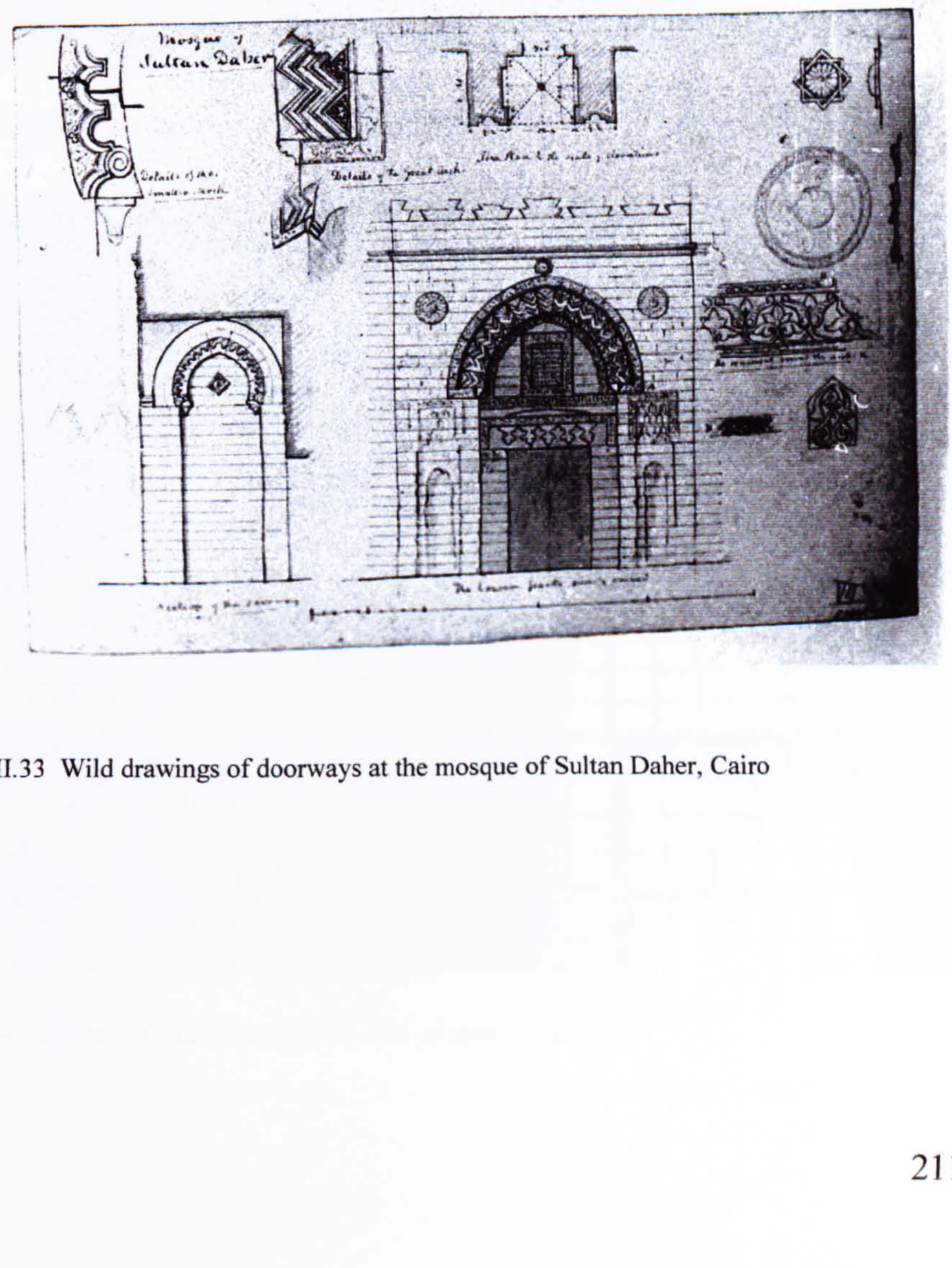


Fig.III.33 Wild drawings of doorways at the mosque of Sultan Daher, Cairo

Fig. III. 34 St Mark's Church, Alexandria: Wild sketch showing the proposed treatment of the nave arches

Fig. III. 35 St Mark's Church, Alexandria: interior view of nave windows

Fig. III. 36 Church of St Caesario, Rome: studies of polychromatic mosaics

Fig. III. 37 Church of St Nerio & Achilleo, Rome: studies of polychromatic mosaics

Fig. III. 38 The Dock Tower, Grimsby, Lincolnshire

CHAPTER IV

From antiquarianism to symbolism

Above all this chapter is concerned with the important part which colour played in Gothic Revival architecture as a medium of religious and heraldic symbolism. While this may be the overall theme for the chapter it does, however, introduce two related topics which also have a bearing on the development of polychromy during the middle of the nineteenth century. The first of these is concerned with the close relationship between painted colour and religious symbolism, and the consequences of this association. The second considers the question of how one can distinguish between painted polychromy and decorative paintwork.

It appears that in the early stages of the Gothic Revival, when antiquarians were attempting to bring about a more scholarly and sympathetic approach to the restoration of Gothic monuments, there was no corresponding interest in medieval architectural paintwork. This movement for the restoration of Gothic monuments had commenced at the end of the eighteenth century when a small group of preservationists, led by Richard Gough, the President of the Society of Antiquaries, had been alarmed by a number of unsympathetic works of restoration which were being carried out to important examples of Gothic architecture such as the cathedrals of Durham, Salisbury and Lichfield, by architects working for the church, of whom James Wyatt was the most notable figure. Gough urged that any work of restoration to these monuments should be based upon a proper knowledge of the principles and features of the Gothic styles and he stressed the importance of there being accurate reference material available to those involved in restoration to assist them with work of this kind.[1]

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[1] MYLES, JANET (1996): *L.N. Cottingham 1787-1847, Architect of the Gothic Revival* (London: Lund Humphries) p.14 (referenced hereafter as MYLES)

During the next few years this initiative on the part of Gough and the Society led to the appearance of a number of important illustrated publications on medieval buildings, such as John Britton's *Architectural Antiquities of Great Britain*, published in five volumes between 1807 and 1826. These were followed by a flood of other works, including Britton's publications on cathedral antiquities between 1814 and 1835. Although these publications gave the average cultivated man a much better idea of Gothic forms than had previously been available they were still principally aimed at the amateur.[2] Between 1821 and 1822 the volumes of A.C. Pugin and E.J. Willson *Specimens of Gothic Architecture Selected From Various Ancient Edifices in England* lifted the standard of architectural information available to a level calculated to be of more value to the professional architect.[3] As the author remarked,

> 'The drawings for all these have been made with care, and with attention to practical execution. It is hoped and believed that every form and member here presented can be easily executed, either on a scale equal to the original, and for similar purposes, or reduced to any other scale, and applied to any other subject'.[4]

These drawings were intended therefore to enable the architect or the restorer to reproduce Gothic details with a much greater degree of authenticity than had been available previously.

What is interesting to note is that in spite of this growing desire during the 1820s to provide architects with reference material so that the medieval styles could be revived in an archaeologically correct manner, colour was not seen as playing an important part in the architecture. In spite of there being a certain amount of surviving evidence of the colour which had been used in medieval times, the surveys carried out do not seem to

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[2] CLARK, KENNETH (1928): *The Gothic Revival* (London: Constable) p.95

[3] These volumes were preceded by F. Mackenzie and A.C. Pugin's volume *Specimens of Gothic Architecture selected from various ancient buildings at Oxford*, reckoned to have been published by J. Taylor in 1816.

[4] PUGIN, AUGUSTUS CHARLES and WILLSON, EDWARD JAMES (1821-22): *Specimens of Gothic Architecture; selected from various antient edifices in England*, Vols. I & II (London: J. Taylor), preface p. v

have regarded this as something which needed to be recorded. The detailed survey and structural analysis of King Henry VII's Chapel Westminster by L.N. Cottingham is a case in point.[5] This astonishingly detailed survey of the building with its careful attention to all the ornamental features does not touch on the colours which had been used. Colour would originally have been extensively used in the interiors, not only on the ornamental features but also on the structural elements and vestiges of the original paint must almost certainly have remained. It is understandable that colour was not used on the plates since any form of colour reproduction would have been prohibitively expensive at that time, but what is less comprehensible is that colour was not a subject discussed in the text.[6] In his recommendations to students of Gothic architecture Cottingham emphasised that it was important the buildings themselves should be visited since it was not enough to gain knowledge of the styles first from books and prints. As he remarked in the section entitled 'Observations on Gothic Architecture' at the beginning of his survey:

> 'Our venerable cathedrals afford the best sources of instruction; it is from actual observation of them that he can gain the desired information - it is from them that he must learn effect, composition, decoration, character and construction.'[7]

Cottingham's study of King Henry VII's chapel was regarded as an outstanding work of scholarship in its day and as Janet Myles has pointed out in her work on Cottingham it was in the possession of several leading nineteenth century architects, amongst whom she mentions Sidney Smirke, A.W.N. Pugin and Owen Jones.[8] The fact that a study as carefully researched and comprehensive in its content as this contained no information about medieval painted colour makes Owen Jones's study of the Alhambra even more remarkable. Within five years of the publication of the second volume of *King Henry*

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[5] COTTINGHAM, L. N. (1822-29): *Plans, Elevations, Sections, Details and Views of the Magnificent Chapel of King Henry VII at Westminster Abbey Church, the History of its Foundation and an Authentic Account of its Restoration*, 2 Vols. (London)

[6] Note: This point applies to Volume I, the author not having the opportunity to study Volume II.

[7] COTTINGHAM: *King Henry VII's Chapel*, p.8

VII's Chapel Jones and Goury were carrying out their own survey of the Alhambra. Their archaeological approach to the recording of colour in medieval paintwork and tiling was therefore very innovative for its time. Jones's rendering of the actual state of the colours and his interpretation of how they could originally have appeared in *Plans, Elevations, Sections and Details of the Alhambra* (1836-45) was also highly original. Although the first volume of *The Alhambra* was not complete until 1842, sections were released as they were finished, so that Part 1 appeared in April 1836, and Parts 2 and 3 were released during December the same year. The next four sections appeared in June 1838, followed by Parts 8 and 9 in February 1840 and the final section in July 1842.[9] Volume Two, entitled *Details and Ornaments from the Alhambra*, was distributed in two parts in 1842 and 1845. Carol Flores has noted that A.W.N. Pugin was an original subscriber to both volumes[10] so that as early as 1838 he would have been in the possession of the first seven sections of Volume 1 and aware of Jones's pioneering work on the recording and interpretation of historic colour.

As the acknowledged authority on Westminster through his publications of 1822 and 1829 Cottingham was engaged in 1839 by the Societies of the Inner and Middle Temples to examine the whole fabric of the Temple Church London, and to make a report on its condition. This ancient church, founded during the Crusades by the Knights Templars and consecrated in AD 1185 by Heraclius, the Patriarch of Jerusalem, had originally been a simple round church but this was considerably enlarged by the addition of a square chancel during the reign of Henry III. In time the church had become a private chapel of the Societies of the Inner and Middle Temple, but by the beginning of the nineteenth century it was in substantial need of repair and restoration.

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[8] MYLES: p.16
[9] DARBY, MICHAEL (1983): *The Islamic Perspective* (London: The World of Islam Festival Trust) p. 46
[10] FLORES: p. 68.

In the course of carrying out their survey of the building and making preparations for its restoration, Cottingham and the society's architect, James Savage had made important discoveries. Sufficient vestiges of paint remained on the walls to provide the architects and decorators with evidence of the colours and style of decoration which had existed in medieval times. With the full support of the committee of the two societies it was resolved that the restoration should, as later reported by *The Gentleman's Magazine*, be 'carried out with true antiquarian feeling' and 'that every part of their Church should be restored and adorned in the most correct manner'.[11] Unhappily for Savage a difference of opinion with the societies arose at an early stage in the restoration work and it was Sidney Smirke and Decimus Burton, appointed in his place, who actually became responsible for the restoration.

It is evident that the restoration of a medieval decorative scheme raised a good deal of controversy in 1843 and Smirke felt obliged to point out that the scheme was not a contemporary design but was based on antiquarian research:

> 'With regard to the mural paintings, vestiges were met with sufficient to warrant the conclusion that the whole was painted much in the manner we now see it. Some difference of opinion prevails as to the fitness of this style of decoration; and in England, where the climate, and perhaps the reforms of the sixteenth and seventeenth centuries, have left very little of the original painting on the walls of our churches, it was to be expected that many would object to a species of enrichment which had long ceased to be familiar to them'.[12]

During the Second World War the church was hit by incendiary bombs and the nineteenth century restoration decorations were all burned off. We are fortunate, however, in having an extensive record of the decorations carried out since the contemporary magazine *Quarterly Papers on Architecture* published an article in 1844 prepared by the delineator R.H. Essex which included a set of chromolithographical

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[11] *Gentleman's Magazine, The* (1841): New series, Vol. XV, (January), p.18
[12] SMIRKE, SYDNEY (1844): 'The Temple Church' in WEALE, J., *Quarterly Papers on Architecture* Vol. II (London), p.6

plates showing the decorations in extensive detail (Figs IV.1 and IV.2).[13] Essex also published a perspective view of the interior in 1843 which shows the overall effect of the restored mediaeval decorations.[14] (Fig. IV.3)

Painted decorations were not applied to all the surfaces of the interior. The vault groins, arches and columns have been painted with a variety of small scale repetitive patterns, principally in red and blue, so that the structure of the interior is clearly defined. The vault spandrels are used as spaces for an emblematic treatment and display devices which symbolise both the religious and secular aspects of the building. Symbolic representations of the Evangelists Sts Matthew, Mark, Luke and John are interspersed with heraldic devices of the Inner and Middle Temple. In the chancel these are surrounded by floriated scrollwork but a different treatment is used in the spandrels of the round vault with the joints being picked out in colour. The whole decorative scheme relies on a simple palette of four colours, blue, green, red and ochre. An exception to this occurs where texts occur, these being painted in red and black Norman characters.

The wall spandrels at each end of the chancel, both in the middle aisle and the side aisles, are given a somewhat heavier painted treatment, the ground to the emblems being in solid red. At the West end the spandrels are used to proclaim the royal associations of the church and carry representations in colour (mainly in green) of the six monarchs connected with the history of the Knights Templars. The fourth order of coloured ornament concerns the splays of windows to the side aisles and chancel end windows, which are defined by light running ornament sometimes in intertwining 'ropework', sometimes with separate motifs of leaf or flower form. The altar and reredos are given quite a different colour treatment, gold predominating backed up by

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[13] ESSEX, R. H. (1844): 'Descriptive Catalogue of the Plates Illustrating the Restoration of the Temple Church', in WEALE: *Quarterly Papers* Vol. III (London) pp.1-7

red and blue, but here, as Smirke makes clear, there is no precedent for the colours since the altar was replaced in the seventeenth century and no evidence remained of the original.

It can be deduced from Essex's perspective that the decorative colour scheme of the Temple Church was not calculated so much to create an overall, generalised atmosphere of spirituality, but more that the colours had significance as part of the mediaeval language of symbolism, and they were intended to tell a story to those who were versed in the language. The same simple palette of colours was then used to decorate other elements within the interior to produce a decorative effect.

While carrying out this survey Cottingham and Savage had been unable to find much evidence of the original painted medieval floor tiling in the Temple Church and it was decided to seek surviving examples from another building of similar age so that copies could be produced. An investigation of the Chapter House, Westminster, proved rewarding for beneath the wooden floor lay the original medieval pavement in almost perfect condition. Savage's reaction was later reported in William Burge's account of the restoration of the Temple Church.

> 'I find the paving to be in the most excellent preservation, and of great variety in the devices, but alike in colour throughout; viz a red group with orange coloured ornaments.'[15]

Cottingham's report appeared in *Archaeologia*[16] and described the tiles in some detail. The tiles had incised coloured figures, some with religious allusions and some royal; others had characters such as the cock, an emblem of vigilance and the fox, an emblem of subtlety. The tiles also had patterns consisting of geometrical forms divided by narrow borders, and both the tiles and borders were decorated with leopards, lions, flowers and foliage. Cottingham's report included traced and copied drawings of the

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[14] The Guildhall Library, City of London 570/Tem Chu. Illustration published in the catalogue to *The Age of Chivalry* exhibition held at the Royal Academy of Arts, London, 1988 p.376.

tiles and these were later published in J.G. Nichol's *Examples of Inlaid and Encaustic Tiles* of 1845 with an acknowledgement to Cottingham's work.[17] As a result of this investigation the Societies of the Inner and Middle Temple made a decision to match these tiles and use them in the restored church, Herbert Minton being awarded the contract for manufacturing the new encaustic tiles and supplying them for use in the Temple Church. These proved to be very popular and Minton subsequently supplied them for a number of other buildings, one of which was Cottingham's new church of St. Helen's at Thorney in Nottinghamshire (1845-9).[18]

Writing in 1844 in *Quarterly Papers on Architecture* Sydney Smirke commented on the tiling of the Temple church:

> 'The pavement...has been laid with encaustic and partially vitrified tiles, a new manufacture of great beauty, that has been brought into existence by the recent revival of the taste for ancient ecclesiastical architecture. The colours and general design of the tiles are borrowed from portions of the original pavement that had survived, and from contemporary remains in the Chapter House at Westminster.'[19]

Restoration of the Temple Church attracted considerable interest at the time[20] and contemporary reviews were enthusiastic about the scheme. One such appeared in *A Glance at the Temple Church* written by Felix Summerly (alias Sir Henry Cole).

> 'the bright and positive colours displayed in light and graceful arabesques; the more gorgeous magnificence of the altar, and above all, the intense brilliancy and beauty of the windows form a combination of splendid and subdued harmony not at present to be met with elsewhere in all England. Yet with all these things, the toute ensemble is the farthest removed from gaudiness. The decorations are so good and so temperate, that we positively yearn for more of them, and every inch of bare wall becomes an eyesore'.[21]

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[15] BURGE, WILLIAM (1842): *The Restoration of the Temple Church* (London: Kendall) p.46
[16] *Archaeologica* (1841): Vol. XXIX, pp.390-91
[17] MYLES: p.22
[18] MYLES: p.113
[19] SMIRKE: 'Temple Church', p.6
[20]Three articles which provide evidence of the interest created are:
(i) *Ecclesiologist, The* (1842): Vol. 2, No. XIV, (October), p.56; (ii) SUMMERLY, FELIX (1842): *A Glance at the Temple Church* (London: Bell and Wood); (iii) BURGE, WILLIAM (1843): *The Temple Church: An Account of its restoration and repairs* (London)
[21] SUMMERLY: *Glance at the Temple Church,* p.5

Summerly forecast that the restoration of the Temple Church 'appeared to be destined to exert a great and beneficial influence' and this proved to be the case for it may be seen as influencing a whole generation of architects, not least Augustus Welby Pugin. The actual decorations at the Temple Church were carried out by Thomas Willement, one of the foremost decorators at that time and later to work with Pugin at Alton Towers before Pugin became closely associated with Crace.

Late in his career Cottingham was responsible for the rescue and restoration of a medieval polychromy decorative scheme discovered in a small Suffolk church, St Peter's Theberton. In 1846 the church was in a state of dilapidation and Cottingham was engaged to save the round tower from collapse and to restore the south aisles and porch. Traces of medieval polychromy were discovered during removal of whitewash from the south aisle arcade. Sufficient evidence of the original decorations were available to enable Cottingham to restore the stencilled patterns in their colours of red, green and blue. The timbers, spandrels and bosses of the south aisle roof were restored and decorated at the same time, red, green and blue again being the colours used for the decorative motifs, many of which had symbolism. Examples of these may be found for instance in the capitals of the nave arcade where one has fleur de lys (symbols of the Virgin Mary) alternating with heraldic crosses, while another has IHC monograms (Jesus) alternating with lilies (Virgin Mary and Joseph) (Figs. IV.4 & 5).[22]

These decorative schemes, the major one at the Temple Church and the small scale one at St Peter's, Theberton involved the restoration of painted colour which had first been applied in medieval times. At the Roman Catholic church of St Giles at Cheadle in Staffordshire, we have a very early and important example of polychromatic decoration being carried out in the interior of a Gothic Revival building. The architect,

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[22] MYLES, pp. 112 & 113. In the same church a wall monument to the Hon. Frederica Doughty, also designed by Cottingham, is decorated with polychrome work

A.W.N. Pugin, is the major figure around whom colour and symbolism revolves and St Giles is important both for its handling of colour for architectural effect and for the way it puts into practice Pugin's principles concerning ornament and symbolism.

Common purpose and understanding between the architect and client generally have a beneficial effect on the resulting work, and this was certainly the case at St Giles, where Pugin was fortunate in his client, or patron, John Talbot, the 16th Earl of Shrewsbury. In 1837 Pugin had been introduced to the Roman Catholic Earl just at a time when this grandee had decided to make some of his wealth available for a Roman Catholic church building programme, a decision which was intended to be symbolic of a second spring of Roman Catholicism. Although Pugin had not up to that time designed a single church the Earl was impressed by Pugin and his ideas, so much so that he lent his support to Pugin's appointment, first as the architect and professor of ecclesiastical antiquities to the Roman Catholic College at Oscott in 1837, and then in the following year as architect for the new Roman Catholic cathedral of St Chad's in Birmingham. These were swiftly followed by commissions for other buildings which again relied on the Earl for financial support: St Mary's, Uttoxeter in 1838, the Hospital of St John's, Alton in 1839 and St Giles, Cheadle in 1841. Pugin's original designs, which were prepared after extensive study of parish churches in Norfolk, were very modest with a simple and plain interior. It appears, however, that as the design developed so the ambitions of the Earl grew and he may be considered as much responsible as Pugin for the decision to increase the height of the spire to its lofty extremes - what Pevsner has described as 'the raised forefinger of Pugin's steeple pointing heavenward.'[23] By 1843 the Earl was becoming concerned about the eventual cost of the building and was urging that there should be restraint in the expenditure. It is because of this call for economy

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[23] PEVSNER, NIKOLAUS (1974): *The Buildings of England: Staffordshire* (Harmondsworth: Penguin) p.97

that the sequence of events leading to the elaborate interior decoration eventually being carried out, and so completely at variance with a call for prudent expenditure, are unusually interesting.

It was at about this stage in the construction of the building that Pugin needed to reach decisions about the treatment of the interior. Economies had forced Pugin to use plaster on internal walls of the building instead of stone ashlar, which he no doubt would have preferred, and it might have been expected therefore that the walls would merely be washed with lime paint. However, early in 1844 Pugin set off on a visit to several medieval churches in Norfolk to record their paintwork, with the object of finding precedents for the decoration of St Giles.

> 'I am half frantic with delight, I have seen such churches with the painting and gilding near perfect!!! Such screens, exquisite painting. I shall have glorious authorities for Cheadle. I am delighted beyond measure to have seen them before we begin at Cheadle.'[24]

Are we to understand from Pugin's letter that he was only looking for precedents for the decoration of the rood screens and other furniture, or was it his object already to introduce stencilling on the walls and columns at St Giles? The former seems more likely since the Norfolk churches would have provided good examples of surviving decoration of screens and other church furniture such as pulpits, while any medieval wall decorations would have been obliterated at the time of the Reformation.

Not long after his visit to Norfolk Pugin decided to visit several Gothic churches in Paris which were undergoing restoration at that time. These included Saint German-l'Auxerrois, Saint Germain-des-Prés and the Sainte Chapelle. His main objectives seem to have been the study of restorations to medieval polychromy and stained glass.[25]

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[24] Letter Pugin to Shrewsbury, 25 April 1844, quoted by O'DONNELL, RODERICK (1994): 'The Later Pugins' in ATTERBURY, PAUL and WAINWRIGHT, CLIVE (eds.) *Pugin: a Gothic Passion* (New Haven and London: Yale University Press and Victoria & Albert Museum) p.76 (referenced hereafter as *Pugin: a Gothic Passion*)

[25] Pugin's visit to Paris is well documented. The actual dates were 18-23 May 1844. Noted in his diary and published in WEDGEWOOD, ALEXANDRA (1985): *A.W.N. Pugin and the Pugin Family* (London:

Pugin was particularly impressed with the French polychromatic decoration and stained glass of the Sainte Chapelle,[26] but it is not clear how much of the polychromatic restoration work had been actually carried out when Pugin visited in 1844.

During the French Revolution the thirteenth century chapel on the Ile de la Cité in Paris had been extensively damaged, but because the Revolutionaries regarded it as a prime symbol of royalty and had systematically obliterated the decorative motifs which were associated with monarchy. For instance, the tympana were hammered clean, as were parts of the building bearing crowns and Fleur-de-Lis. At the Paris Exhibition of 1836 the architect Jean-Baptiste Lassus (1807-1857) had showed a project for the church's restoration and his work attracted considerable attention. In spite of this it took another ten years for the French government to agree to provide funds for restoration work.[27] An article, written in 1849 for *The Ecclesiologist* by Lassus revealed his frustration at the slow rate of restoration work. He remarked that although the public had recently been admitted to the building for the first time 'there still remained an immense amount to do to bring the Sainte Chapelle to a nearer approach to what it was in the time of S. Louis.'[28] Strangely, the article contained no reference to the polychrome restorations, although this would have been likely to interest readers of *The Ecclesiologist*, In 1845 J.G. Crace produced sketches of the Sainte Chapelle's interior decorative scheme during a visit to Paris in December of that year (Fig. IV.6). (These are now in the RIBA Drawings Collection). It was not until 1856, then, that the restoration of the Sainte Chapelle was finally complete. When Pugin gave an

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V&A) p.90. The visit was arranged with the French Gothic revival publicist A.N. Didron, editor of *Annales Archéologiques* and is recorded in Tome Premiere, Paris, 1844, p. 59.
'M. Pugin, le jeune et déja illustre architecte catholique anglais, vient de passer quelques jours avec nous à Paris. M. Pugin a étudié et admiré les travaux executés par nos amis dans Saint Germain-l'Auxerrois, dans Saint German-des-Prés, et surtout dans la Sainte Chapelle; ils va porter en Angleterre le système et les procédés appliqués avec un certain bonheur à la réparation et la décoration de nos monuments du moyen âge.'

[26] WEDGEWOOD: *Pugin and Family*, p.90 n.20

[27] DILLANGE, MICHEL (1994): *The Sainte Chapelle* (Paris: Editions Ouest-France) p.11

[28] LASSUS, J. B. (1850): 'The Sainte Chapelle &c.,' in *The Ecclesiologist*, Vol.X, p.297

enthusiastic account of the chapel's polychrome restoration work to Lord Shrewsbury on his return to England in 1844 we do not know the extent to which this was based on completed work or whether it was on the basis of Lassus's drawings. It seems to have convinced the Earl, however, that funds should be made available for polychrome decorations to be carried out at St Giles. In consequence, J.G. Crace was appointed later in 1844 to carry out the work and this got under way at the end of 1845 after he had himself visited the Sainte Chapelle.

The interiors of the two buildings are very different and for that reason too much should not be made of the influence of the French church on St Giles. The importance of the Sainte Chapelle to Pugin seems to have had more to do with the way in which it set a precedent for the use of medieval colour and symbolism than its architectural qualities (Figs. IV. 7 & 8). It is interesting nevertheless to compare the theatrical effect of colour to the two interiors. The Sainte Chapelle is a single undivided lofty space lit all round by huge stained glass windows and in that space the polychromy combines with the stained glass to produce a single overwhelming and sumptuous experience (Fig.IV.9). At St Giles Pugin used colour in quite a different theatrical way. There the colour is graded in hue and tone to help define a hierarchy of spaces which emphasise the liturgy of the church and at the same time produce architectural impact (Figs IV.10 & 11).

This is most apparent in the contrast of colour between the nave and the sanctuary. In the sanctuary and in the Blessed Sacrament Chapel white and gold, combined with red and touches of blue makes the tone much lighter than in the nave and side aisles, where the colours are more subdued and are combined to produce a lower tonal level. In fact, the tonal contrast between nave and sanctuary is probably greater now than when the church was first built because the stencilled paintwork on the walls and columns of the nave has attracted a deposit of grime, something which has not

happened to the same extent in the sanctuary where there is a good deal of tiling on the walls. Sited in the heart of the 'Potteries' the interior of the building has been subjected to a smoky atmosphere over the years and the effect may be gauged by a small area which has either been cleaned recently or exposed after being previously covered (Fig. IV.12). The colours used in the stencilled decorations of the nave are individually bright but used in combination without the contrast of white or gold the overall tonal value is quite dark. This impression is increased by the dark woodwork of the pews and of the roof timbers. At the Sainte Chapelle the ribs of the vault have a large amount of gold in the decoration and the vault itself is covered with gold stars, all of which contributes to a lighter feeling and more sparkle than the nave of St Giles. Light also plays an important part in the difference between the two interiors. The huge windows of the Sainte Chapelle ensure that the colours themselves are saturated with light, while the gold paint shines and helps to enliven the effect. At St Giles the nave is dimly lit, the aisle windows being small and there is no clerestorey to provide high level lighting. The East window to the sanctuary is the largest and the colours benefit accordingly.

But while the Sainte Chapelle seems to have provided Pugin with inspiration for the decoration of St Giles, and it is interesting to make comparisons between the two, his use of colour there owes much more to certain principles of design which he believed to be inherent in Gothic architecture. While professor of ecclesiastical antiquities at Oscott College Pugin delivered a series of lectures in which he developed his ideas concerning the principles of design in pointed architecture, and in 1841 the content of two of these lectures was published as *The True Principles of Pointed or Christian Architecture* as a polemic for the primacy of Pointed Architecture. The *True Principles* does not itself have a great deal to say about the part which colour should play in the ornamentation of Painted Architecture but Pugin's later work *The Glossary of Ecclesiastical Ornament and Costume* published in 1844, sheds more light on this

topic and St Giles takes us a stage further by providing examples of how these principles have been actually put into practice. The passage in *True Principles* which introduces us to a notion of the part which colour should play in ornament comes in Lecture II when Pugin talks about the enrichment of wooden roofs in certain English churches.

> 'Of wooden roofs over churches we have beautiful specimens in various parts of England, but especially in Lincolnshire, Norfolk, and Suffolk. The beams of these roofs are beautifully moulded and enriched with carvings. Nor were these carvings without a mystical and appropriate meaning; they usually represented angels, archangels, and various orders of the heavenly hierarchy, hovering over the congregated faithful, while the spaces between the rafters were painted azure and powdered with stars and other celestial emblems, a beautiful figure of the firmament. Some of these angles held shields charged with the instruments of the passion, the holy name, and other emblems; others labels with devout scriptures. Every portion of these roofs was enriched with painting, and when in their glory must have formed splendid canopies to the temples of the living God.'[29]

This passage illustrates two of Pugin's principles:

- All ornament should consist of enrichment of the essential construction of the building
- In pure architecture the smallest detail should *have a meaning or serve a purpose*

In the introduction to *The Glossary*, entitled 'Of Symbolism in Art', Pugin went a stage further in explaining the importance of these two principles:

> Ornament, in the true and proper meaning of the word, signifies the embellishment of that which is in itself useful, in an appropriate manner...
> Every ornament, to deserve the name must possess an <u>appropriate meaning</u>, and be introduced with an intelligent purpose, and on <u>reasonable grounds</u>. The symbolical associations of each ornament must be understood and considered: otherwise things beautiful in themselves will be rendered absurd by their application.[30]

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[29] PUGIN, AUGUSTUS WELBY NORTHMORE (1841): *The True Principles of Pointed or Christian Architecture* (London: Academy, 1973 reprint of first edition) pp.39-41 (referenced hereafter as PUGIN: *Pointed Architecture*)

[30] PUGIN, A. W. N. (1844): *The Glossary of Ecclesiastical Ornament and Costume* (London: Henry Bohn) pp. iii and iv

One contemporary feature of design with which Pugin took issue concerned the use of shadows in patterns in order to create a three dimensional appearance. Pugin pointed out the absurdity of having 'an apparently reversed groining to walk upon, or highly relieved foliage and perforated tracery for the decoration of a floor.'[31] In this regard medieval tiles offered an object lesson:

> 'The ancient paving tiles are quite consistent with their purpose, being merely ornamented with a pattern not produced by any apparent relief, but only by contrast of colour.'[32]

Although Pugin did not elevate this to being one of his main principles it was to have enduring influence. Pugin and Owen Jones seem to have been completely in accord concerning this principle,[33] although their precedents were from different sources: Pugin from the Gothic, Jones from the Islamic, and they disagreed about the symbolic use of colour. Its strength as a principle lies in its inner truth for the design of ornament, whether there be symbolic content or not.

Pugin's references to symbolism were in the context of Christian art but as he later remarked in the introduction to *The Glossary* in words curiously reminiscent of Owen Jones's lecture 'On the Influence of Religion upon Art', and Principle 2 of *The Grammar*,[34] throughout history, each civilisation had developed its own system of ornament 'characteristic of itself...which became appropriated by the laws of symbolism, to the illustration of that system, more or less exclusively.'[35]

The Glossary takes two forms. By means of reference to the works of the great writers on Christian symbolism, Durandus, Georgius, Bona, Catalani, Gerbert, Martene, Molanus, Thiers, Mabillon, Ducange, etc., it sets out to explain the symbolism and significance of the motifs and artefacts of Christian art. What is important from the

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[31] PUGIN: *Pointed Architecture*, p.30
[32] PUGIN: *Pointed Architecture*, p.30
[33] JONES: *Grammar*, p. 154
[34] 'Architecture is the material expression of the wants, the faculties, and the sentiments of the age in which it is created.' JONES: *Grammar*, p.5 (Proposition 2)

point of view of this study is that the symbolism of colours is covered in detail with quotations from the select list of writers. The colours which are examined for their symbolic significance are Black, Blue, Gold, Green, Red (or Purple), Silver and White.[36]

The second half of *The Glossary* provides coloured illustrations, by means of beautifully chromolithographed plates, of all those features which contributed towards the ritual of Christian dogma. In *The Glossary* Pugin makes no attempt to theorise on colour or colour theory but what he does do is show many examples of the way colour is used in ornament for its symbolic effect. At St Giles we find Pugin putting into practice his principle that 'the smallest detail should have a meaning or serve a purpose' but there is a duality in the symbolism; it is mainly Christian but there are heraldic references to his patron, the Earl of Shrewsbury. Figure IV.12 provides an example. On the area of stencilling which shows the original colours we see a Shrewsbury 'S' motif alternating with the red heraldic lion of the family, but flanked on one side by a tree of life. Figure IV. 15 shows the red Shrewsbury lion used as a motif in the stencilling on the nave column. This mixture of Christian and heraldic symbolism is confined to the nave, the area occupied by the laity. Within the sanctuary and the Blessed Sacrament Chapel the symbols are all religious and are those, for instance, appropriate to Christ (the Lamb and Flag) and Mary (fleur de lis and crowned 'M').

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[35] PUGIN: *Glossary*, p.iv
[36] PUGIN: *Glossary*, etc.
Black: (in heraldry termed Sable). The colour of honour and distinction; for which respect morning garments are made in that colour (pp. 40-41);
Blue: (in heraldry termed Azure). Signifies piety and sincerity. Blue signifieth divine contemplation (pp. 41-42);
Gold: signifies purity, dignity, wisdom and glory (p. 137);
Green (vert): Signifieth of itself the bountifulness of God, and in moral virtues, mirth, youth and gladness. The green field is the emblem of felicity and prosperity to perpetuity, and is the symbol of the Resurrection (p. 138);
Red (or purple): Red, in its mystic sense, signifies the intensity of divine charity and love. It is also used as an emblem of martyrdom (p. 179);
Silver: is an emblem of chastity, and therefore most appropriate for ornaments intended for images or chapels of our Blessed Lady (p. 189);

Shortly before the consecration and opening of St Giles on 1 September 1846 the opening took place of St Peter's Roman Catholic Church, Marlow, also designed by Pugin. Since they are contemporary it is interesting to see how Pugin's principles on colour and ornament were applied to an altogether smaller church and are built to a modest budget. The first impression in this church is that, modest as it is, there is a feeling of quality in the materials and workmanship and there is very little applied colour (Fig. IV.16). Closer inspection reveals, however, there to be more colour than first supposed. The elements of the interior which provide colour are the encaustic floor tiles, the stained glass windows, the panelled vault of the sanctuary and the furniture. This last refers to the altar and its elaborate reredos and the painted figures of the rood screen. If we consider just the architectural elements, the tiling, the sanctuary vault and the stained glass windows it is possible to make direct comparisons of the ordering of colour and ornament between St Peter's and St Giles. Taking the floor tiling first we progress from plain red and black tiles in the nave to red and buff tiles with a black surround in the choir (Fig. IV.17 & 18) to red, blue and yellow tiles in front of the altar (Fig.IV.17). Thus we pass from an area of drab tiling in the nave to brightly coloured tiling in the sanctuary. While the roof timbers of the nave are unpainted, the vault to the sanctuary is made up of panels painted in blue, red and gold, these being separated by ribs picked out in gold. The stained glass windows also make their contribution towards the gradation of colour between nave and sanctuary but in a different manner, the windows to the nave having darker colours and less clear panes, while the sanctuary windows have small brilliant panes of coloured glass and a higher proportion of clear

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White: the most joyous of the canonical colours; the emblem of innocence and purity (p. 125).

panes (Fig. IV.20). The greater amount of light thus emphasises the colours of the floor, vault and altar.[37]

In the floor tiling and the sanctuary vault (Figs. IV.16 & 17) we can see Pugin's principle that the smallest detail should have a meaning or serve a purpose expressed in the Christian symbols of sanctuary floor tiling (foliate crosses, fleur de lis, Agnus Dei, crowned 'M'), all assisted by appropriate colouring (Figs. IV. 17, 19 & 21).[38] Above, in the sanctuary vault, the panels decorated with the keys of St Peter alternate with foliate crosses, the surfaces between being powdered with gold stars.

In these two very different buildings, St Giles and St Peter's, colour was very much a part of Pugin's application of principles. Colour was part of the enrichment of the essential construction of the building, and colour was serving a purpose in the symbolism, which was present in the detail, and helping to give that detail meaning. For the ornament of flat surfaces colour, combined with form, was the means of creating pattern and this principle of Pugin's is found as a constant in all the stencilled wall pattern and in the tiling of the two churches.

Within three years of the consecration of St Giles work had commenced on an Anglican church at Highnam in Gloucestershire which was to be the rival of St Giles in its use of painted internal polychromy. Just as at St Giles, there were exceptional circumstances as there were at Holy Innocents, Highnam. The patron, Thomas Gambier Parry, had been a founder member of the Cambridge Camden Society, being a Tractarian with a belief in the virtues of ritual and symbolism. In 1837 he had acquired a large estate near the village of Highnam but shortly after taking possession he suffered

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[37] The stained glass East window was blanked out in 1969 when a new church was built 'back to back' with Pugin's church.

[38] Agnus Dei. *The Glossary* states that 'in representations of Agnus Dei the following rules are observed. The body of the Lamb is in white, with a gold nimbus and red cross round the head. The banner red at the points, with a red cross on a white field next to the staff which is terminated by a cross. The image is generally figured within a circle or quatrefoil, on a field either azure or gules.' It is evident that in respect of tiling Pugin allowed some lassitude in the exact rendering of symbolic colour.

the misfortune of his wife, Isabella's death and he decided there could be no more fitting memorial to her than a church, particularly since there was a need for one in the village. From the outset he resolved that he would use his considerable wealth to build a church of exceptional quality and in pursuit of this aim he engaged his friend Henry Woodyer as his architect. Parry was a talented artist in his own right and all the wall paintings in the church, both figurative and decorative are not only to his own design but also his own work (Fig. IV.22). He studied the techniques for wall painting which had been used by the Italian painters of the fourteenth and fifteenth centuries and invented a technique termed 'spirit fresco', a dry plaster method suitable for surviving the damp English climate.[39] Parry ground and mixed all the colours himself and was responsible for the figurative painting. The lettering of the texts and diaper work was carried out by assistants. Throughout symbolism was an important constituent of the ornament and the colours used associated with the meanings ascribed to them in Pugin's *Glossary*. The wall and roof adjacent to the east window to the chancel provides an example (Fig. IV.23). The chancel roof, with stars on azure blue not only represents the firmament but is also indicative of divine contemplation. Roundels of angels in white (the emblem of innocence and piety) surround the window arch, while weaving between is foliage signifying the bountifulness of God. Throughout the roof and walls are covered with texts, emblems and shields bearing the signs of torture and crucifixion. The red ground to the text surrounding the east window 'who so eateth my flesh and drinketh my blood hath eternal life' is a reminder of martyrdom. Throughout the decoration of the church texts are an important part of the ornament and in this feature we are reminded of Owen Jones's work at St Bartholomew's Sutton Waldron.[40]

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[39] Gambier Parry used the same technique of painting for the roof and lantern of Ely Cathedral which he undertook during 1863 and 1864 for his friend, Sir George Gilbert Scott.

[40] FLORES: pp. 69-70 draws attention to the fact that Pugin was an original subscriber to *The Alhambra* and it seems probable that his liberal use of pious texts in decorative schemes reflected the Moorish use of

It will be seen that Highnam only came into being as a result of the combination of very special circumstances - Gambier Parry's wish to produce a memorial to his wife, his affiliation to the Tractarian movement and his interest in religious symbolism, his own ability to carry out the wall painting and lastly, but by no means least, his considerable wealth. As such it stood in a class of its own - something to wonder at but not something to imitate.

It appears in any case that by 1851 the tide of opinion, at least as represented by *The Ecclesiologist*, was beginning to turn away from the use of painted polychromy in churches. Holy Innocents, Highnam may be regarded, therefore, as the high water mark of symbolic colour. Within three years of the consecration of St Giles in 1846 Pugin found himself subject to a critical review in the Roman Catholic periodical *The Rambler* which, without naming St Giles, left no one in doubt as to the target of its comments. The essence of the criticism was that the church was over-decorated with the effect, firstly of distracting attention from those features which should receive special emphasis from a liturgical point of view in a Roman Catholic church, which the writer referred to as 'the *special* delights' - the altar, the images, the pictures and the candles, and secondly that the decorations interfered with the architecture.[41]

Two of the key passages in the article read as follows:

> '...nothing is easier than to spoil a good church with painting and gilding. Miserable and cold as is naked stone or plaster edifice, even when highly enriched with foliage, panelling, arcades and every decorative device of the architect, it is not so offensive as a church bedaubed with an innumerable variety of gaudy colours and gold leaf laid on wherever the slightest pretence for gilding can be discovered.
> ...Decoration with colour ought to be conducted on the same principle as decoration in wood or stone. Its office is to *aid* the architectural effect, by bringing out its lights and shadows with additional distinctness, by treating the walls and flat surfaces as backgrounds from which furniture and elementary

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mural texts described in that work. The manner in which texts are used as part of the decorative scheme bear more comparison to St Bartholomew's Sutton Waldron (1847) than to St Giles, Cheadle (1846).

[41] ANON. (1849): 'Church Decoration', *The Rambler,* Vol. IV, (December), p.500

features of the building shall (to use the painter's phrase) *stand out* and strike the eye without bewildering it'.

This criticism seems to have struck home, Pugin seemed to have sensed he had departed from his own profoundly held principles which had been set down in *The True Principles* concerning the need for churches to use the best building materials affordable and the importance of avoiding lavish decorations as a trick to cover up inferior ones:

'Now the severity of Christian architecture is opposed to all deception. We should never make a building erected to God appear better than it really is by artificial means. These are showing worldly expedients, adapted only for those who live by splendid deception, such as theatricals, mountebanks, quacks and the like. Nothing can be more execrable than making a church appear rich and beautiful in the eyes of men, but full of trick and falsehood, which cannot escape the all-searching eye of God, to whom churches should be built, and not to man...
Let every man build to God according to his means, but not practice showy deceptions; better is it to do a little substantially and consistently with truth, than to produce a great but fictitious effect.'[42]

Pugin was invited by *The Ecclesiologist* to defend himself against the criticisms of over-decoration which had appeared in the *Rambler* article and his reply was published in the April 1850 issue of *The Ecclesiologist* under the title 'Mr Pugin and "*The Rambler*"'[43]

His remarks were revealing for, perhaps more than anywhere else, they sum up his attitudes towards the use of painted decoration in churches. He was quick to point out, first of all, that the painted decoration of some of his churches had been carried out by others and without his approval:

'[I] have witnessed with extreme disgust a great number of most vulgar perpetrations of colour, which have even been introduced into buildings designed by myself, and without the least regard to style or propriety. As for stencilled walls, I dislike them exceedingly, for with *our associations* they will always have more or less the effect of paper hangings'.[44]

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[42] PUGIN: *Pointed Architecture*, pp.52-3
[43] ANON. (1850): 'Pugin and The Rambler', *The Ecclesiologist*, Vol. X, (April), pp.396-7 (referenced hereafter as 'Pugin and The Rambler')
[44] 'Pugin and The Rambler': By our associations Pugin is presumably concerned that stencilling and wallpaper may equally be considered as a cover for inferior materials, p.396

This had evidently happened in the side chapels at St George's Roman Catholic cathedral, Southwark, designed between 1838 and 1840 by Pugin.

> 'Had the pious benefactors who paid for the coloured decorations contributed the same sum to have improved the fabric when first designed, they could have been groined with stone, and lined with imperishable ornament. This was also the same case at Cheadle, which was originally designed for a plain parochial country church, and it was quite an afterthought of its noble founder to cover it with coloured enrichment'.

Pugin then elaborated on his attitude towards the use of decorative paintwork:

> 'It is a great mistake to expend large sums of money on painting, gilding, and decorating buildings, which are <u>essentially poor</u> in character and construction. The ecclesiastical buildings, so richly decorated during the Middle Ages, were most elaborate and splendid structures, not plain plaister walls, but moulded and sculptured from groin to pavement...
> Do not let anyone imagine that I am deprecating the legitimate use of colour in church decoration but it should be confined within proper limits, and applied with the greatest judgement and discrimination. Roofs are always susceptible of coloured enrichments, altars, panels, triptychs, roods etc. but colour will not remedy an original deficiency in the design of a building and its cost is far better expended in the improvement of the fabric in the first instance.'[45]

In spite of Pugin's protestations it is difficult to believe that it was with total reluctance he proceeded with the decoration of St Giles in 1845. Once he discovered that Lord Shrewsbury was enthusiastic to carry out decorations, and was prepared to pay for them, Pugin was no doubt carried away with enthusiasm at the time, only to have later regrets. That would seem to be in conformity with his nature. What is undeniable is that after St Giles, Pugin showed his determination to remain true to his stated principles, as St Peter's, Marlow so well demonstrates and as he was later to show at St Augustine's, Ramsgate. At St Augustine's Pugin was intent on using the best quality materials for the interior of the church and everywhere used random coursed, plain jointed Whitby ashlar rather than use plaster with a painted finish. As he remarked to

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[45] 'Pugin and The Rambler': p.397

his son, Edward, 'I am giving you the best architectural lesson I can; watch the Church, there shall not be a single "true principle" broken.'[46]

At the end of 'Mr Pugin and "The Rambler"', the writer indicated a change in *The Ecclesiologis*t's own attitude to the use of architectural colour:

> 'We very much wish that our enthusiastic writer [the writer of the article in "*The Rambler*"]...had entered into the question of constructional polychrome, we are every day more and more convinced that it is one of the problems, which the revived Pointed Architecture of the nineteenth century...will have chiefly to work out, if it means to vindicate its position of being a living and growing style.'[47]

Well before the appearance of this article the Cambridge Camden Society had found itself under sharp attack from some quarters for what were seen as pro-Roman Catholic attitudes. Painted colour in churches was regarded by many within the Church of England, and certainly by the Evangelicals, as one of the main symptoms of the differences over liturgy between the High Church faction, the Tractarians, represented by the Cambridge Camden Society and the Evangelicals, in the Anglican church. Between 1842 and its demise in 1868 the pages of *The Ecclesiologist* provide ample evidence of changing attitudes to painted decoration, attitudes which are connected to the development of constructional or permanent polychromy. One significant incident was a sermon at the parish church, Cheltenham given by the Reverend F. Close (1797-1882) in November, 1844. In itself the sermon might have been unnoteworthy but in 1845 it was published with the title *The 'Restoration of Churches' is the Restoration of Popery: proved and illustrated from the authenticated publications of the 'Cambridge Camden Society': a sermon preached in Cheltenham November 5th 1844.* The Reverend Close, a passionate and eloquent opponent of the Cambridge Camden Society

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[46] WEDGEWOOD, ALEXANDRA (1988): 'Pugin in his home', *Architectural History*, Vol. 31, p.194
[47] 'Pugin and The Rambler': p.398

argued the Evangelical case against painted polychromy so convincingly that *The Ecclesiologist* was moved to publish a lengthy rebuttal.[48]

Three extracts from the Reverend Close's sermon will illustrate the thrust of his criticism of the Camden Society for promoting a return to mediaeval forms of decoration (i.e. polychromy):

> 'If it cannot be denied that all the oldest churches in existence were built in dark and superstitious times, and adapted to the kindred usage of the period in which they were erected; and if these churches are to be restored - that is brought back to the exact models in form and decoration of the mediaeval period - is it not a matter of obvious and necessary conclusion, that the Restoration of Churches is the Restoration of Popery - that it not merely tends to it, but is the superstitious thing itself?'[49]

> I affirm that I am not opposed to the decoration of churches, but to extravagant and gorgeous decoration; that I am not an enemy to anything that is beautiful in architecture, while I am, and hope ever to be, the implacable enemy of all Popish and mediaeval restorations.[50]

> The objects of the Camden Society are neither purely Artistical nor Architectural;...their proceedings must be viewed "in a religious aspect" - in fact, as I shall prove, the object for which they were professedly formed is quite subordinate to that which they are sedulously pursuing; namely the inculcation of doctrine and religious instruction by means of mediaeval restorations. It is not a question of brick or stone - of taste or of science - the points at issue are purely doctrinal - it is whether Romanism or Protestantism shall prevail.'[51]

The Ecclesiologist was clearly rattled by Close's sermon, something its reply is unable to conceal. Having called it a 'Fifth of November' sermon, the aim of which was the 'exposure and annihilation of the Cambridge Camden Society', they then went on the attack, commencing with a threat:

> 'We decline to argue any religious questions until he shall have cleared himself from a report which appeared in the public journals during the summer of 1844 and remains so far as we can learn uncontradicted, namely that he did at a public meeting speak in laudatory terms of certain avowed Nestarian heretics.'[52]

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[48] *Ecclesiologist,The* (1845): Vol. IV, (May), p.108-22
[49] CLOSE, F. (1844): *The Restoration of Churches is the Restoration of Popery* (London: Hatchard 2nd ed.) p.10 (referenced hereafter as CLOSE)
[50] CLOSE: p.11
[51] CLOSE: p.14
[52] *Ecclesiologist, The* (1845): Vol. IV, pp.109

This 'opening shot' was then followed by a series of charges, namely that the sermon was unintelligible, his accusations were false and absurd, unfair, mischievous and seditious. Lastly, *The Ecclesiologist* claimed that Close was 'attempting to undermine their efforts to uphold Church or Christian architecture to the rejection of all other, or pagan styles.'[53]

The first sign of a change in attitude towards polychromy occurs in relation to the use of encaustic tiles. An indicative episode occurred in September 1845 when *The Ecclesiologist* carried an article which took issue with a publication sharply critical of the painted decoration at the church of St John Slimbridge, Gloucestershire.[54] What was really at issue, though, was whether it was acceptable to use paint on natural materials. The Bristol Architectural Society, which had produced the original publication, took the view that only in artificial materials would they employ colour. *The Ecclesiologist* summed it up:

> 'In artificial materials only would they [The Bristol Architectural Society] employ colour. They would stain glass, and lay down encaustic tiles; for in both these cases, they make the colour with the body; but they would not paint stone, nor gild wood, because nature has already invested these substances with their appropriate colour'.[55]

At this stage *The Ecclesiologist* was still taking the view that if the mediaeval craftsmen painted their carved stonework and woodwork, what reason had we not to embellish the work with paint? This did not allow for the point which Pugin was making, however, that paint was being used to cover up inferior materials, rather than as decoration to natural stone. The only common ground that did exist between the Bristol Architectural Society and *The Ecclesiologist* lay in an acceptance of colour encaustic tiles as a medium for the enrichment of churches.

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[53] *Ecclesiologist, The* (1845): Vol. IV, p.152

[54] PEVSNER, NIKOLAUS and VEREY, DAVID (1970): *The Buildings of England. Gloucestershire: The Vale and the Forests of Dean* (Harmondsworth: Penguin) pp.35-6. Attributes the restoration to Francis Niblett, 1845

[55] ANON: (1845): 'On Decorative Colour', *The Ecclesiologist*, Vol. IV, (September), pp. 199-203

For construction purposes wall tiles offered a speedier method of applying the decorative finish, particularly where several colours were being used. With stencilling time had to be allowed for separate colours to dry, whereas no such waiting time was required for the wall tiles. The tiles themselves were expensive but at least it was possible to use local craftsmen to fix them. Stencilling was far more dependent on the skills of a specialist firm like Crace and this put a premium on the cost of applied decoration. For many churches stencilled decoration was out of the question from the point of view of cost, whereas tiling could be applied to give decorative effect at much more modest cost. Recognition that encaustic tiling, both for floor and wall, offered an affordable and acceptable means of enrichment came when *The Ecclesiologist* published a paper in October 1848 'On Tiles'. The article was much in favour of their use and offered practical advice on the factors to be borne in mind when choosing tiles for a church.

The Ecclesiologist may have begun in the late 1840s to withdraw its support for painted polychromy in churches but wherever the patron or incumbent of a church held Tractarian views painted decoration often continued to be applied well after this period. The parish church of St Margaret's in Leiston, Suffolk is a good case in point. At the time of its design and construction between 1853 and 1854 the incumbent was a man of strict Evangelical principles[56] and as such his choice of architect was a man sympathetic to his beliefs - Edward Buckton Lamb (1806-1869). Twenty years later a new vicar[57] was appointed who although not an extreme ritualist, began to introduce the principles of the Oxford Movement at Leiston. One of the results of this change to a High Church tradition with greater emphasis on ritual was the complete reordering of the sanctuary with painted ornament and texts (Fig. IV.24).

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[56] TRICKER, ROY (1990): *St Margaret's Leiston, Suffolk, History and Guide* (Leiston), pp.5-6

Colour was therefore, for a period, an important part of the language of religious symbolism introduced into the architectural ornament of Gothic Revival churches. The colours individually had a meaning but more usually their purpose was to give identity to religious symbols, the Agnus Dei being a good example. By the late 1840s there was a decline in architectural polychromy as a feature of religious symbolism, both in the Roman Catholic and High Anglican churches. The principal reasons for this decline were that painted decoration was regarded as distracting attention from features of special liturgical significance in a church and that, where money was short, it was preferable for the symbolism to be expressed through the medium of stained glass or encaustic tiles. The non-architectural elements, such as the furniture and vestments also increasingly took on this role.

If we turn our attention from religious to secular architecture, changes in the integration of decoration with architecture are, for several reasons, nothing like as easy to trace.[58] The first is that in spite of the growing fashion for country houses built in one of the 'Old English' styles, ranging from Gothic to Elizabethan, there was little attempt to integrate the style of decoration with the style of the house. Another is that in many domestic interiors the architectural features did not lend themselves to enrichment with polychromy and the owners preferred to have alternative schemes of decorative paintwork.

In the same way that medieval religious symbolism had a profound influence on Gothic Revival church polychromy, heraldry played an important part in the development of secular polychromy. During the 1820s, the time that works on Gothic architecture were published by Britton, A.C. Pugin, Willson and Cottingham, there was a parallel growth in antiquarian interest in heraldry. In 1821 Thomas Willement

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[57] The Reverend Wodehouse Raven was, by strange coincidence, the son of the Vicar of Christ Church, Streatham, vicar between 1841 and 1890, during which time it was decorated by Owen Jones.

published Regal Heraldry: *The Armorial Insignia of the Kings and Queens of England from coeval authorities*, a work which provided the necessary scholarly evidence for the growing use of correctly blazoned heraldic devices in both secular and ecclesiastical buildings.[59] It is worth noting that before it changed its name to the Oxford Society for Promoting the Study of Gothic Architecture, the Society had been previously known as the Oxford University Genealogical and Heraldic Society (1835-9). Studies such as Willement's heightened antiquarian interest in heraldry and by the 1830s this began to be reflected in the Gothic Revival decorative schemes of the period. Heraldry has strict conventions for the use of colours, or tinctures as they are known,[60] and this meant that where devices formed part of a decorative scheme they exerted a powerful influence on the palette of colours used. An early example of the incorporation of heraldic devices in a decorative scheme may be found at Taymouth Castle in Perthshire.

Until quite recently[61] it has been assumed that the sumptuously rich interiors carried out between 1838 and 1842 at Taymouth for the 2nd Marquis of Breadalbane had been devised by James Gillespie Graham and decorated by J.G. Crace, but recent evidence[62] indicates that the designs owe much of their medieval inspiration to A.W.N. Pugin. His involvement with Taymouth seems to have first come about when Gillespie Graham was asked to create a library in the west wing which in 1838 was undergoing extensive re-modelling. Although Gillespie Graham was an experienced designer of

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[58] SMITH, HELEN (1980): 'Decorative Painting in the Domestic Interior in England and Wales c.1850-1890', unpublished PhD thesis, Courtauld Institute of Art, University of London, p.24

[59] WAINWRIGHT, CLIVE (1990), 'Polychromatic Decoration', in ALDRICH, MEGAN, ed: *The Craces: Royal Decorators 1768-1899* (Brighton: John Murray), p.159 (referred hereafter as WAINWRIGHT 'Polychromatic Decoration'

[60] FRIAR: pp.132-3. Tinctures are divided into 'metals' and 'colours': the metals are represented by *Or* (gold, often depicted as yellow) and *Argent* (silver, usually depicted as white). The colours are *Gules* (red), *Azure* (blue), *Sable* (black), *Vert* (green), *Purpure* (purple) and *Murrey* (Mulberry). The so-called 'stains' are *Sanguine* (blood-red) and *Tenné* (tawny). Metals and colours are subject to the tincture convention. This is the fundamental 'rule' of heraldry: **that metal shall not lie on metal, nor colour on colour.** This convention seems to have been universally accepted from the earliest times and is clearly intended to facilitate the accurate identification of heraldic devices at a distance.

[61] ROWAN, ALISTAIR (1964): 'Taymouth Castle, Perthshire' *Country Life*, Vol. 2/136, (15 October) pp.978-81

Gothic buildings he evidently decided to seek advice from Pugin on the details of the library's interior, for a drawing by him of the fireplace was recently discovered in an album of drawings belonging to Trotters, the Edinburgh interior decorators who carried out the work. [63]

At this stage Pugin had only just started to work as an architect but he had already developed a detailed knowledge of Gothic ornament while he was working as a furniture designer and then later as a stage designer acting as assistant to William Grieve at the King's Theatre, London. The theatre was not just an interest of the moment for Pugin. Through his family and their friends Pugin had been preoccupied with the theatre and theatrical gossip since boyhood and this passion remained with him throughout his short life. In 1833, however, he decided to abandon the stage and instead pursue his great interest in Gothic architecture as an architect.[64] By the time Gillespie Graham asked for his help on the detailed design of Taymouth's library Pugin had succeeded in securing his first independent architectural commission and was already working on designs for Scarisbrick Hall in Lancashire. The exact extent of Pugin's involvement in the design of the library at Taymouth is unclear[65] but in the way it combines colour with a wealth of fine architectural detail to achieve great richness of effect it certainly seems to bear his imprint. The overall effect (Fig. IV.25) is of dark natural wood and extensive areas of gilding but in the elaborate trussed ceiling the gilt is contrasted with cobalt blue in the panels and red is used to pick out the detail of the ornament. Red is also used in the gilt circles of the frieze and to highlight heraldic devices in the pendentives.

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[62] WEDGEWOOD, ALEXANDRA (1994): 'Domestic Architecture', in *Pugin: a Gothic Passion*, pp.43-62 (referenced hereafter as WEDGEWOOD: 'Domestic Architecture')
[63] WEDGEWOOD: 'Domestic Architecture', p.50
[64] LAMBOURNE, LIONEL (1994): 'Pugin and the Theatre' in *Pugin: a Gothic Passion,* p.40
[65] WEDGEWOOD: 'Domestic Architecture', p.50. Wedgewood notes that an elevation for the fireplace of the library by Pugin and copies of other drawings by him for other work at Taymouth were found in albums originating from Trotters' (the Edinburgh decorators) workshop.

The work in the Adam wing was followed by extensive redecoration of the early nineteenth century rooms in the main block together with the creation of a new tall Gothic room linking the two blocks, conceived as a state dining-room and referred to as 'The Banner Hall'. The motivation for such an extensive programme of remodelling and decoration lay in Lord Breadalbane's anticipation of a visit from the newly-crowned Queen Victoria and Prince Albert. No expense was to be spared and the firm of Crace was commissioned to undertake plaster-work, papering, painting, gilding, brasswork and upholstery, as well as to supply tapestries and armour.

Although not documented it seems almost certain that the heraldic painting in the Banner Hall was also carried out to Pugin's designs (Fig. IV.26). Here the colours used for the heraldic devices, scroll work and script of the ceiling are all executed in the strong colours of heraldry, offset by gilding, and the whole feeling is one of pageantry.[66] This stands in marked contrast to the ceilings of the Drawing Room and the Breakfast Room (Fig. IV.27), where Crace was evidently left to work up his own designs and the painting is in a quite different 'Gothic Arabesque' style. By comparing the ceilings of the Banner Hall and the Breakfast Room we can see the essential difference between polychromy and architectural decoration. In the former the colouring is provided by the heraldic shields and their accompanying mottos, whereas symbolism plays no part in the choice of colours for the Breakfast Room ceiling.

After completing work at Taymouth Castle Perthshire, J.G. Crace travelled on the continent for several months during 1843, and during this time he was able to spend a lengthy period in Munich. This stay provided him with the opportunity to visit some notable buildings recently completed for King Ludwig I by the Bavarian architects Leo von Klenze and Friedrich von Gärtner, and confronted him with quite new ideas on the

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[66] See WAINWRIGHT: 'Polychromatic Decoration', p.161. Pugin would have been able to draw in Thomas Willement's expert knowledge of heraldry. Pugin and Willement were working together for Lord

architectural use of colour. In particular Crace was intrigued with the way the Bavarian artists had used colour to emphasise the architectural composition of a building and to set off figurative paintings on the wall surfaces.[67] He was much impressed by von Gärtner's *Ludwigskirche* (Fig. IV.29), completed in 1830 and by von Klenze's *Glyptotek*, which used vivid colours to set off the collection of ancient Greek sculpture, but it was von Klenze's *Königsbau* (New Wing) of the Royal Palace, begun in 1826, which most impressed him. During his period in Munich Crace made numerous sketches of the buildings he saw and on his return to England set about preparing a series of finished studio drawings.[68] These drawings were later displayed by Crace when he delivered a lecture to the RIBA on 10 February, 1851.[69]

In 1844, the year after Crace's visit to Munich he was invited by the novelist and historian Sir Edward Bulwer Lytton, to carry out decorations to Knebworth House in Hertfordshire. The resulting decorative schemes show influences which mark a turning point in the use of colour in British mid-nineteenth century interiors. As the heir to Knebworth Bulwer Lytton was proud of the fact that this had been the family seat since 1490 and he accordingly took a great interest in heraldry and genealogy. From the outset of renovations to the house it was Bulwer Lytton's intention that the decorations should incorporate the heraldic devices of the family. Before he could commence work, Crace had to wait until a consultant genealogist had thoroughly researched Bulwer Lytton's family tree. Of the original rooms decorated by Crace only three, the State Drawing Room and two adjacent ante-rooms (one of which was used by Bulwer Lytton as his study), survive. This remaining work provides all the evidence we need, however, to reveal a marked shift in the use of painted decorative colour. In contrast to

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Shrewsbury at Alton Towers shortly after Willement had completed the re-decoration of the Temple Church in 1843.

[67] ALDRICH: 'Victorian Craces', p.71

[68] This series of drawings is in the collection of the RIBA (catalogue C-F pp 51-52)

[69] ANON., RIBA Proceedings,– RIBA 1st series, 1850-51, unpaginated

the refinement and pastel colouring of Crace's 'Old French style' we find Crace using the strong primary colours of heraldry, blue, green, red and ochre yellow, combined with white. The ceiling of the State Drawing Room (Fig. IV.28) is divided by ribs into a series of panels displaying the arms of various members of the Lytton family. The devices are raised over a ground of green edged with red and white and set within panels decorated in an abstract pattern of white, red and blue. The ribs are painted in gold, white, green and red. Beneath the ceiling there is a narrow frieze of painted plaster vine and monograms held by cherubs, the colouring matching the blue, gold, green, red and white of the ceiling. A further frieze with more family heraldic devices and scrolls are laid over a pattern of diagonal bands in which the family motto 'hoc virtutis opus' in red on white, and Bulwer Lytton's initials in gold together with the head of an heraldic beast in white and red, form the motifs (Fig. IV.30). Aldrich believes the diagonal bands with mottoes to be an early example of the influence of Pugin on Crace.[70] In the adjacent ante-room (Fig. IV.31) we again find a narrow frieze which uses the family motto as a decorative motive recalling the influence of Owen Jones's *Alhambra*, recently published, but within the ceiling the decorative use of symbolism is less obvious. Decorative motifs such as the fleur de lis and the sunburst are used but there no longer appears to be any meaning in the ornament. Both these motifs might have symbolic significance in a different context, but neither of them appear as emblems in the Bulwer Lytton heraldry (compare with Fig. IV.30) and it appears that Crace has used them for their decorative effect rather than their symbolic meaning. Most of the symbolism has gone and instead the inspiration for the colour and ornament has come from the interiors which Crace had admired in Munich, in particular the Ludwigskirche and the Halls of

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[70] ALDRICH: 'Victorian Craces', p.72

the Niebelungs.[71] Eclecticism had begun to take over from symbolism as an influence in architectural decoration.

Conclusions

This chapter has been concerned with colour as a symbolic medium in the ornament of British Gothic Revival religious and secular architecture. During the 1840s, at a time when *The Ecclesiologist* was actively encouraging a return to more ritual in the liturgy of the Anglican church, A.W.N. Pugin, the Roman Catholic convert emerged as the major figure around whom the colour symbolism relationship revolved and, by reference to built examples of his work, this chapter has set out to show how his principles were put into practice and the reactions which these brought about.

When one compares the attitudes towards colour and ornament of Pugin and Owen Jones, despite their contrasting opinions about the significance of colour, it is apparent that there were nonetheless many points on which they were in agreement. The first and foremost of these was a shared belief that throughout the ages the best examples of decorative art conformed to certain inherent principles, and that it was important that people should be aware of these. Pugin commenced the Introduction to *The Glossary* by observing: 'That Art has its fixed principles, any departure from which leads to inconsistency and unmeaning effect, is a truth never to be lost sight of.'[72]

There seem to be three principles on which Pugin and Jones were very largely in accord. The first of these concerns the idea that ornament should, to use Pugin's words, 'consist of enrichment of the essential construction of the building' and should not be something 'tacked on'. This idea corresponds very closely with Jones's Principle Five that 'Construction should be decorated. Decoration should never be purposely

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[71] ALDRICH: 'Victorian Craces', p.72
[72] PUGIN: *Glossary* p.iii

constructed'. Colour is part of Pugin's 'enrichment' or Jones's 'decoration'. The second shared principle concerns the importance of avoiding shadows in the design of ornamental patterns which are intended to create an illusion of relief. Although this was not defined as one of Pugin's 'principles' it nevertheless became an important theme in his designs for encaustic tiles, wallpaper and stencilled pattern and is very much in evidence at St Giles. Not only does this coincide with Jones's thirteenth principle concerning the need to avoid the use of flowers or natural objects as ornaments and instead to produce conventional representations based on them, it also stressed the relationship between colour and form, set out in Jones's fourteenth principle: 'Colour is used to assist in the development of form and to distinguish objects, or parts of objects one from another.' Pugin's statement that pattern should not be produced by apparent relief but by the contrast of colour, corresponds to this. The third point where there is accord concerns the practice of painting materials like plaster or cast iron in imitation of natural stone or wood. In this regard Pugin seems to have taken a more uncompromising stand on the subject than Jones, whose principle thirty-five merely stated that such imitations were 'allowable only when the employment of the thing imitated would not have been inconsistent.' Pugin's view was that it was preferable to spend money on good quality building materials left in their natural state, than to use inferior materials and cover them with paint. St Peter's, Marlow and St Augustine's, Ramsgate seem to have demonstrated the sincerity of Pugin's convictions on this matter. This was to be an important factor ultimately in undermining the use of painted polychromy in churches for, as Wainwright has pointed out,[73] 'the idea of leaving stone as stone and oak as oak and not painting them at all' was enthusiastically taken up by a younger generation of Gothic Revival architects like Street, Butterfield and Shaw.

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[73] WAINWRIGHT: 'Polychromatic Decoration', p.163

These then were the points of principle concerning colour and ornament where Pugin and Jones had much in common. The issue, however, on which they were completely at variance concerned the use of religious symbolism, of which colour was a part, in ornament. It was not that Jones was without Christian conviction himself or that he was unable to share Pugin's admiration for the ornament of twelfth and thirteenth century English Gothic architecture. His beliefs in regard to both were made plain in his lecture 'On the Influence of Religion upon Art' and in the section devoted to English medieval ornament in *The Grammar of Ornament*. Jones's objections were founded on the philosophical belief that religious ornament in the thirteenth century, which contained much symbolism, was inappropriate for the decoration of an Anglican church of the nineteenth century since it was no longer an expression of contemporary Protestant faith. For quite different and liturgical reasons there was a reaction by Roman Catholics to Pugin's use of polychromy at St Giles and this led to the adverse criticism to which he was later subjected. Jones had arrived at his understanding of colour from a different direction, his archaeological and theoretical approach having led him to see colour as part of the substance of architecture, not as an addition to it. By contrast, Pugin seems to have looked upon colour more as something which was applied to the surface. After the high water marks for painted polychromy at St Giles and Holy Innocents, Highnam the High Anglicans and the Roman Catholics seem to have moved in different directions in respect of painted polychromy. In the Anglican church it was in part the perceived association between painted polychromy and Roman Catholicism which helped to encourage the development of constructional polychromy as an alternative. In the Roman Catholic church there seems to have been a move away from architectural polychromy and instead for symbolic ornament to be vested in ecclesiastical furniture and costume.

In secular architecture the part played by symbolic colour is not as easy to define as it is in Gothic Revival churches, and is complicated by the narrowness of the line which separates polychromy from architectural decoration. To clarify this difference between the two it is worth reminding ourselves of what we mean by the term polychromy. Unlike surface decoration, polychromy refers to the decoration of architecture, both internally and externally, and of sculpture, by using differently coloured materials or by the addition of colour by painting or other means. For architecture it usually refers to situations where colours are contrasted to emphasise the structural or ornamental features of a building or in connection with symbolic features, as in the case of sculptural elements in ancient Greek or Egyptian buildings. The term 'polychromy' implies not simply the use of two or more colours but the conscious application of several colours which together play an integral part in the complete design. Two of Pugin's principles seem to provide a useful means of drawing a distinction between the two forms of ornament. The principle concerning '*enrichment of the essential construction of the building*' can be taken to refer to architectural polychromy in which symbolism may or may not play a part. Crace's illustration of the Ludwigskirche, Munich, provides an example where symbolism is not in evidence. Another principle, '*in pure architecture the smallest detail should have a meaning or serve a purpose*' may, on the other hand, be applicable in the manner demonstrated by the heraldry of the Banner Hall at Taymouth Castle. Where neither of Pugin's principles apply a scheme may be regarded as surface decoration. In practice, as the ante-room at Knebworth House shows, the two are often mingled.

In secular architecture the distinction between architectural polychromy and decorative paintwork is often more difficult to distinguish than it is in the case of religious buildings. Pugin's and Jones's principles do, however, provide us with criteria

by which we can form an opinion about the differences between the two forms of decoration. Of Pugin's principles the first which may be said to apply is,

> 'all ornament should consist of the essential construction of the building.'

This is supported by Jones's fifth principle,

> 'construction should be decorated. Decoration should never be purposely constructed.'

Jones's practice of his principle is easier to identify than Pugin's practice of his own. St Bartholomew's, Sutton Waldren and St Giles, Cheadle provide us with a means of seeing how their practice differs. At St Bartholomew's the capitals to the columns of the nave arcade are decorated in the colours and in the manner prescribed by his Principle 21 and as shown in Fig. II.6. The colouring of the nave columns at Cheadle (Fig. IV.15) follow no such architectural principle; it is the Talbot emblems which have largely determined the choice of colours.

The second Pugin principle to be relevant is,

> 'in pure architecture the smallest detail should have a meaning or serve a purpose.'

If a scheme of painted decoration conforms to either of Pugin's principles we can say that it is a work of architectural polychromy, but if neither apply it is a work of architectural decoration.

Crace's Breakfast Room at Taymouth Castle, (Fig. IV.27) and the State Drawing Room at Knebworth House, provide us with good examples by which we can distinguish between the two forms of ornament. In the Breakfast Room we find that the supposed structural elements, the pendentive in the middle of the ceiling and the four 'fan vaults' are all formed of decorated plasterwork and do not form part of the 'essential construction' of the building. Likewise, the decoration lacks any symbolic content (save one small heraldic emblem). Thus we can say that this is a work of architectural decoration. A similar observation has already been made about Jones's

ceiling to the conference room at No. 16 Carlton House Terrace (Fig. II.19). In contrast, the decoration of the ceiling to the State Drawing Room at Knebworth House (Figs. IV.28 & 30) passes both these tests. The beams, which have been painted gold, green, red and white on their exposed faces appear to be structural, while the decoration of the frieze and ceiling panels makes extensive use of heraldic devices. This, therefore, is a work of architectural polychromy.

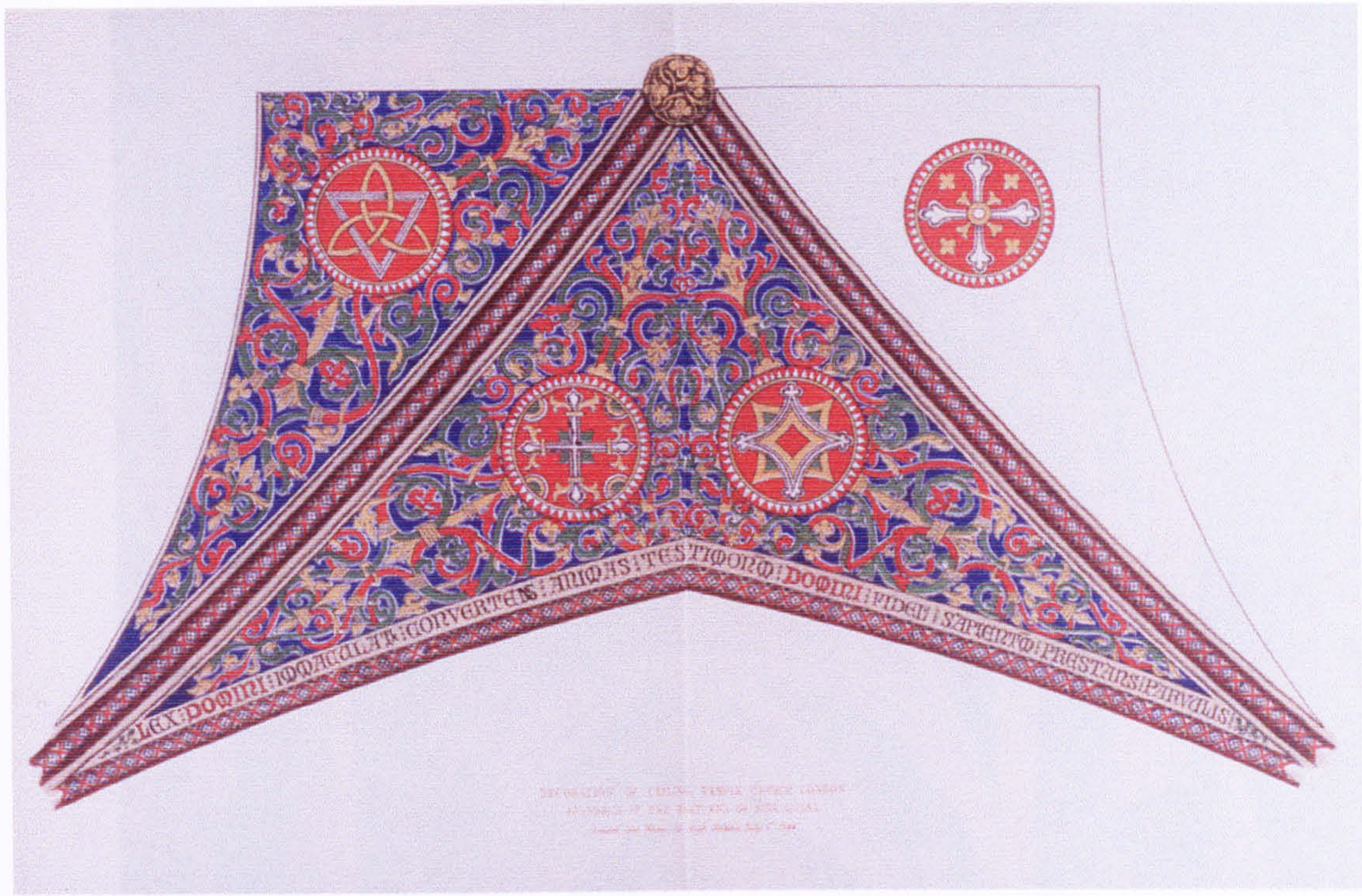

Fig. IV. 1 The Temple Church, London: drawing of the ceiling decoration

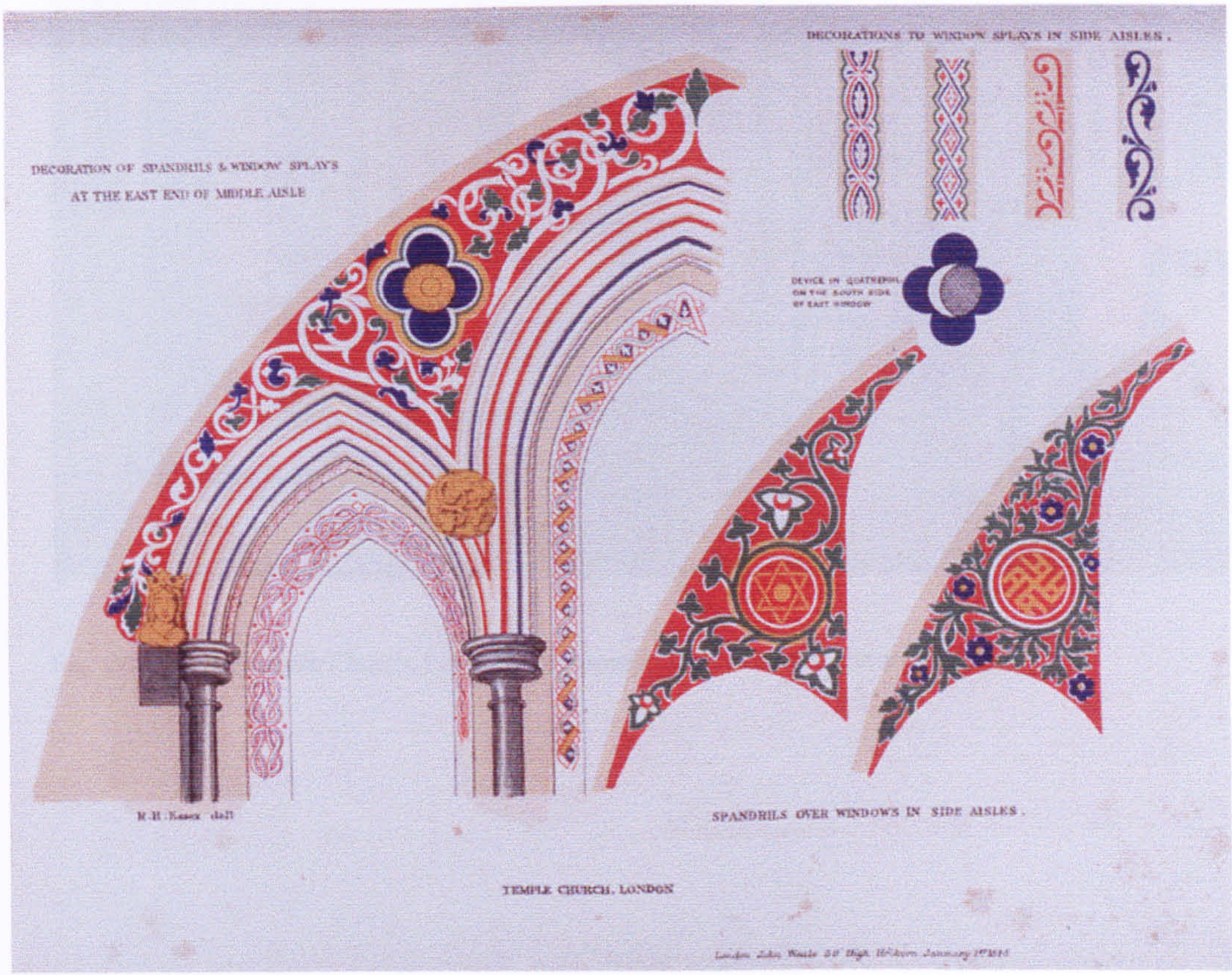

Fig. IV. 2 The Temple Church, London: drawing of the wall decorations to the east nave and side aisles

Fig. IV. 3 The Temple Church, London: perspective sketch of nave and side aisles

Fig. IV. 4 St Peter's Church, Theberton: polychromy to south nave arcade

Fig. IV. 5 St Peter's Church, Theberton: polychromy to south nave arcade and aisle ceiling

Fig. IV. 6 Study of polychromatic decoration at the Sainte Chapelle, Paris by J.G.Crace

Fig. IV.7 Sainte Chapelle, Paris: decoration of cluster column in the upper chapel

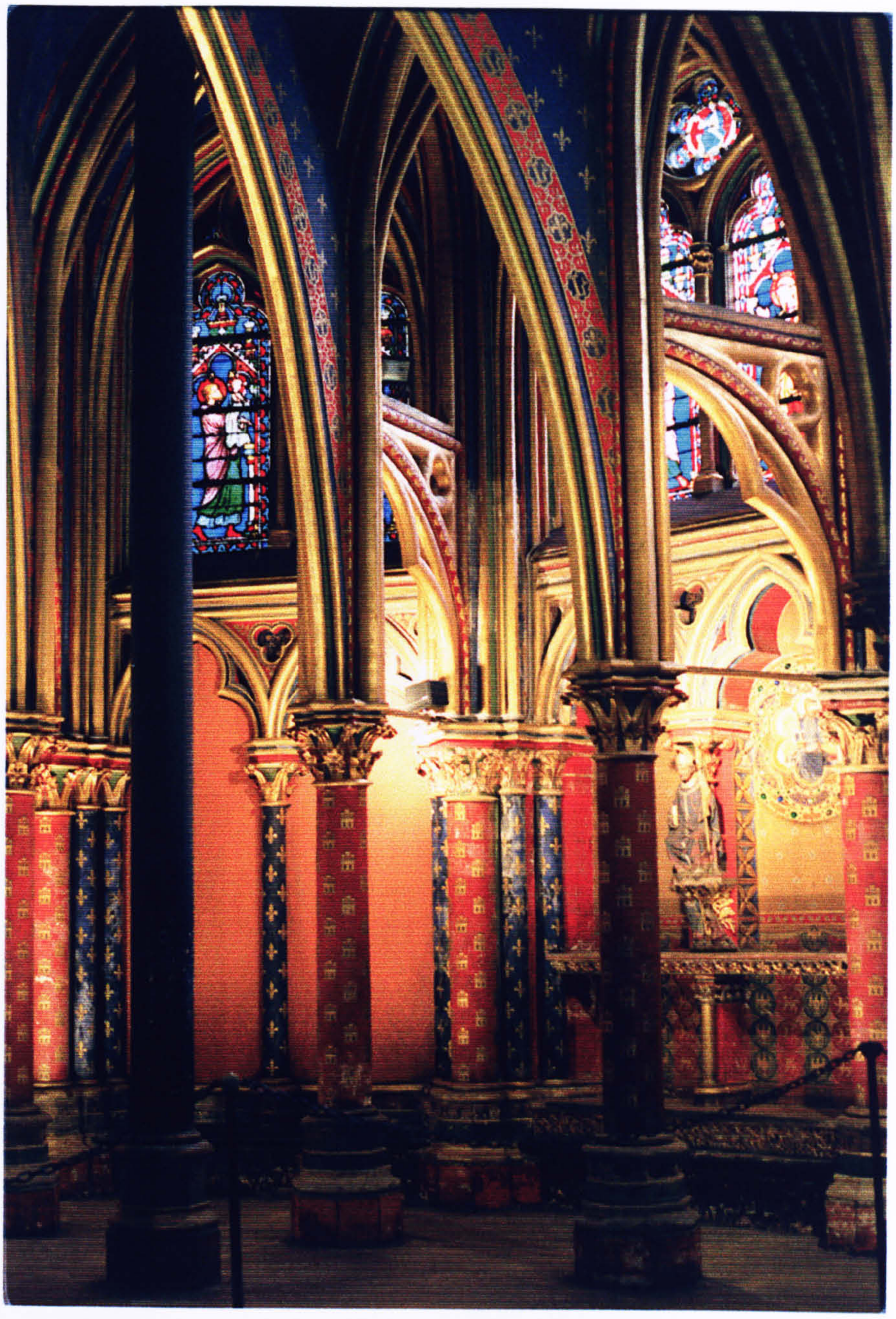

Fig. IV.8 Sainte Chapelle, Paris: decoration of the chancel to the lower chapel

Fig. IV. 9 Sainte Chapelle, Paris: view towards chancel of upper chapel

Fig.IV.10 St Giles's Church, Cheadle, Staffs: view towards sanctuary

Fig.IV.11 St Giles's Church, Cheadle, Staffs: sanctuary vault

Fig.IV.12 St Giles's Church, Cheadle, Staffs: area of wall stencilling showing original colours

Fig.IV.13 St Giles's Church, Cheadle Staffs: contrast of stencilled colour and dado tiling

Fig.IV.14 St Giles's Church, Cheadle, Staffs: external wall to north aisle showing wall tiling

Fig.IV.15 St Giles's Church, Cheadle, Staffs: nave column showing range of decorative motifs

Fig. IV.16 St Peter's Church, Marlow, Bucks: view of sanctuary from nave

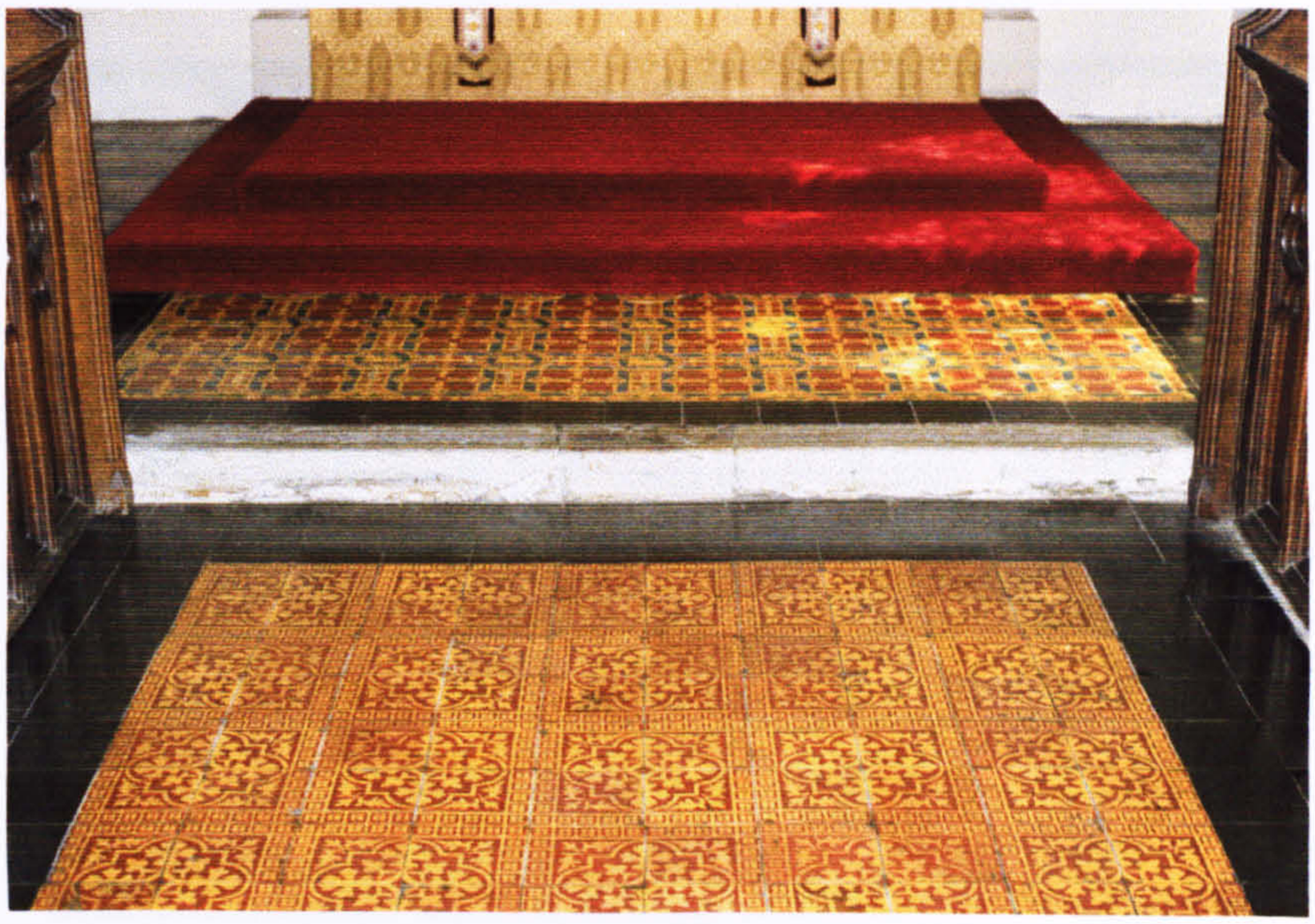

Fig. IV. 17 St Peter's Church, Marlow, Bucks: sanctuary tiling

Fig. IV.18 St Peter's Church, Marlow, Bucks: reredos and high altar

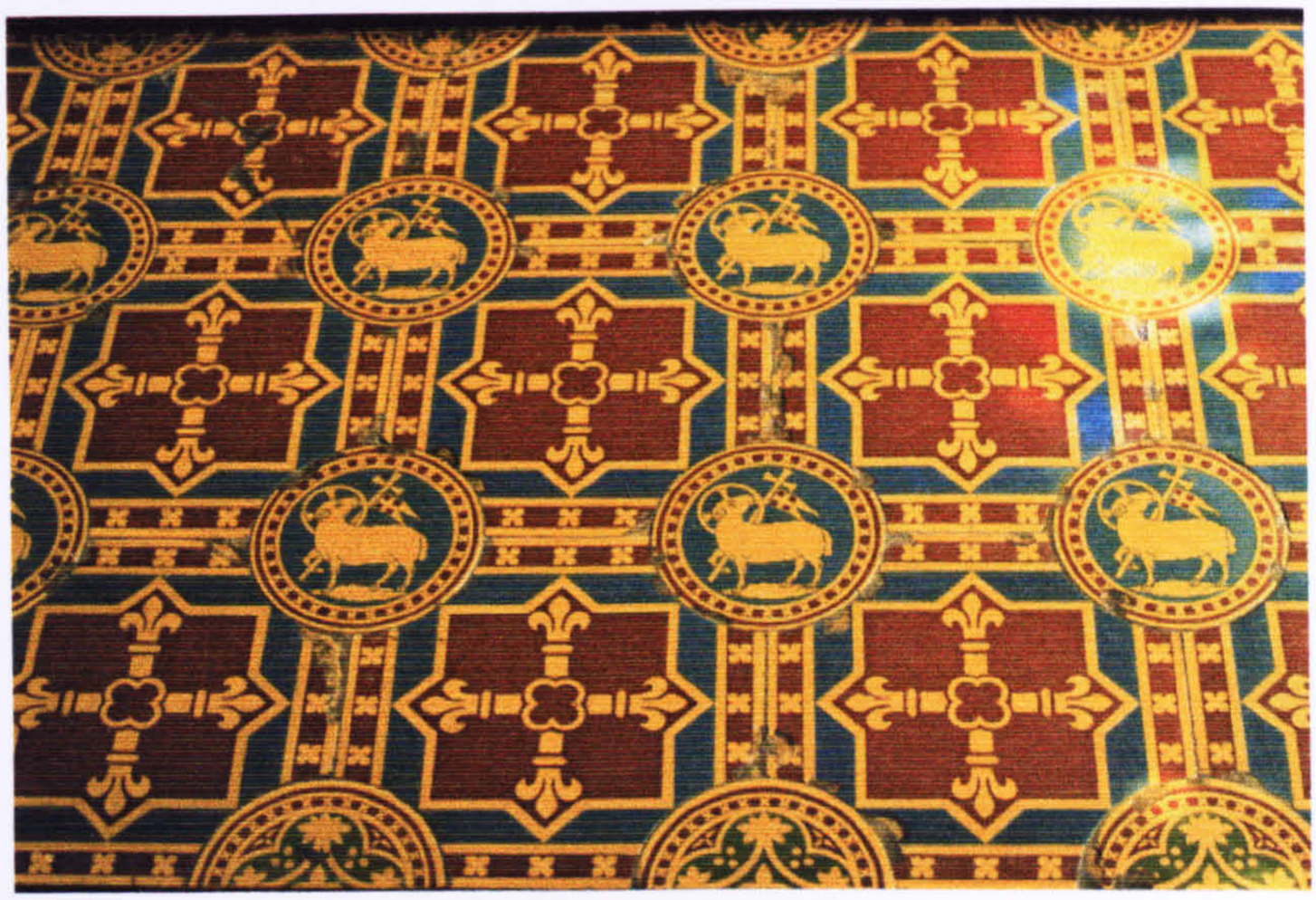

Fig. IV. 19 St Peter's Church, Marlow, Bucks: detail of sanctuary floor tiling

Fig. IV.20 St Peter's Church, Marlow, Bucks: view of sanctuary from ambulatory

Fig. IV. 21 St Peter's Church, Marlow, Bucks: detail of tiling in sanctuary

Fig. IV.22 Holy Innocents, Highnam, Glos: chancel arch, decorative and figurative painting

Fig. IV.23 Holy Innocents, Highnam, Glos: east wall and ceiling of chancel

Fig. IV.24 St Margaret's Church, Leiston, Suffolk: poychromy to chancel arch and ceiling

Fig. IV.25 Taymouth Castle, Perthshire: the Library, looking east

Fig. IV.26 Taymouth Castle, Perthshire: the Banner Hall ceiling

Fig. IV.27 Taymouth Castle, Perthshire: ceiling of the Breakfast Room

Fig. IV. 28 Knebworth House, Hertfordshire: ceiling of the State Drawing Room

Fig. IV.29 J.G.Crace. Study of polychromatic decoration in the Ludwigskirche, Munich, 1843

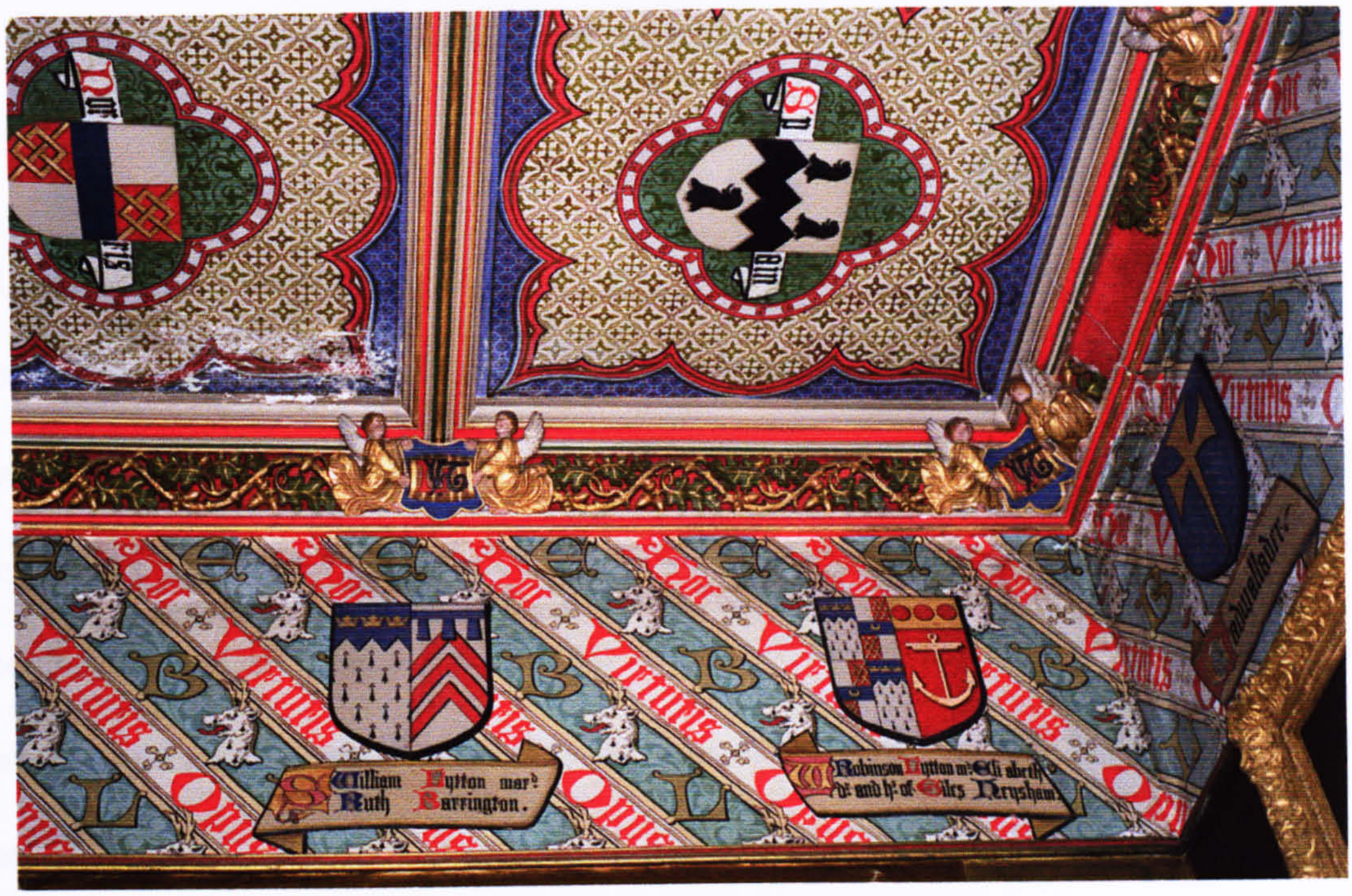

Fig. IV. 30 Knebworth House, Hertfordshire: detail of ceiling decoration - State Drawing Room

Fig. IV.31 Knebworth House, Hertfordshire: detail of ceiling decoration – Ante Room to Drawing Room

CHAPTER V

John Ruskin and the colour lessons of nature

There have been historical accounts of nineteenth century architecture where Ruskin has been attributed with sole responsibility for the introduction of colour into British architecture.[1] While this is not a point of view that can be sustained, and the present thesis is dedicated to showing why it cannot be, there is nonetheless a question as to where exactly to locate Ruskin in the development of polychromy in nineteenth century Britain. First of all, as a writer and a thinker, rather than a practitioner, Ruskin's impact was never directly through built work, but through his writings. Here we have to ask what exactly Ruskin's principles of architectural colour were, and how far they can be shown to have a relationship to other developments in thinking about architectural colour at the time. Not a consistent thinker, Ruskin's precepts about colour were never set out coherently at a single point in his writings, but are scattered through a number of different texts written in the 1840s and 1850s. In considering him in relation to others who wrote about architectural colour, we must bear in mind Ruskin's tendency not to mention, or to dismiss, those to whom he owed most.[2] One may therefore find more correspondence between Ruskin and some of his contemporaries than Ruskin would ever admit to. Ruskin's tendency to present his ideas as unique and original obscures the fact that they come out of an astute knowledge and understanding of what his contemporaries were thinking.

When it comes to the *effects* of Ruskin's writings on architectural practice and the development of polychromy, in that *The Seven Lamps* and *The Stones of Venice* were the books on architecture most widely read by English architects in the second half

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[1] EASTLAKE, CHARLES L. (1872): *A History of the Gothic Revival* (London: Longmans / facsimile, Leicester University Press, 1970) p.279 (referenced hereafter as EASTLAKE)
[2] SWENARTON, MARK (1989): *Artisans and Architects* (Basingstoke: MacMillan) p.13

of the nineteenth century, their influences is incalculable. Although to establish the extent of their influence would be a futile and meaningless task, there is some purpose in investigating how architects who acknowledged the influence of these books interpreted their reading of them in their built work. It is therefore the manner in which certain architects *interpreted* Ruskin that we shall concentrate upon in the second part of this chapter.

The writings of John Ruskin, which began to appear during the 1840s introduced a kind of writing on art and architecture altogether unlike anything which had previously appeared in Britain. His first principal work, the first volume of *Modern Painters* was published in 1843, but it was *The Seven Lamps of Architecture* which was to make such an impact when it appeared in 1849. As a young man Ruskin had had the opportunity to travel extensively in Europe and in the course of his travels he was able to indulge his talent as a draughtsman and water colourist, making studies of subjects from nature, such as rock formations and planting. At this time many changes to buildings were happening in the places which he visited in Europe, notably in Italy and France and he felt a compunction to make record drawings of beautiful buildings which were being altered or demolished. These studies of buildings led him to make detailed notes and sketches and the diaries which he kept of his travels were filled with observations about architectural detail. As a painter rather than an architect his sketches were concerned with what he observed rather than with what he knew about the buildings and this introduced quite a different way of looking at architecture. Through acute observation he became conscious of the different optical effects on a building created by the shifting of coloured light and shadow on the surfaces in ways which affected their colour and form.[3] He began to realise the impossibility of doing justice to these ever-changing combinations of colour and the effect which light had on them, either by painting or by

description. Writing about St Mark's in *The Stones of Venice* he was under no illusions as to the difficulty:

> 'no faithful illustration of them [St Mark's and the Ducal Palace] is possible on a scale of such a volume such as this. And it is difficult on any scale. Nothing is so rare in art, as far as my experience goes, as a fair illustration of architecture; perfect illustration of it does not exist.
> ...As for St Mark's, the effort was hopeless from the beginning. For its effects depend not only upon the most delicate sculpture in every part, but,...eminently on its colour also, and that the most subtle, variable, inexpressible colour in the world, - the colour of glass, of transparent alabaster, of polished marble and lustrous gold.'[4]

But in order to appreciate the glories of colouring which St Mark's displayed a person had to possess a gift for the perception of colour which just like the gift of a musical ear was not something granted to everyone,

> 'the very first requisite for true judgement of St Mark's is the perception of that colour-faculty which few people ever set themselves seriously to find out whether they possess or not. For it is on its value as a piece of perfect and unchangeable colouring, that the claims of this edifice to our respect are finally rested...[5]

For Ruskin colour was a thing of vital and elemental importance and whether he was talking about painting or architecture he always wrote about it with passion: for instance, in writing in *The Stones of Venice* about the importance which colour had for the Byzantine period of Venetian art he stressed that

> 'No one appreciates enough the nobleness and sacredness of colour;...if the blue were taken from the sky, and the gold from the sunshine, and the verdure from the leaves, and the crimson from the blood which is the life of man, the flush from the cheek, the darkness from the eye, the radiance from the hair, - if they could but see, for an instant, white human beings living in a white world, - they would soon feel what they owe to colour. The fact is, that, of all God's gifts to the sight of man, colour is the holiest, the most divine, the most solemn. We speak rashly of gay colour and sad colour, for colour cannot at once be good and gay. All good colour is in some degree pensive, the loveliest is melancholy, and the purest and most thoughtful minds are those which love colour the most.'[6]

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[3] UNRAU: pp.155-7
[4] RUSKIN (1853): *Stones of Venice* II, Works X, pp.114-15
[5] RUSKIN: *Stones of Venice* II, Works X, p.97
[6] RUSKIN: *Stones of Venice* II, Works X, p.172-3

But colour, he reminded us, was a very complex subject and if it was to be used successfully, whether in painting or in ornament, it depended greatly on the intuition of the artist, rather than on any defined rules. He intended in the original plan of *Modern Painters*

> '...an exact enquiry into the effects of colour-masses in juxtaposition; but found when I entered upon it that there were no existing data in the note-books of painters from which any first principles could be deduced, and that the analysis of their unexplained work was far beyond my own power, the rather that the persons among my friends who had most definitely the gift of colour-arrangement were always least able to give any account of their own skill.'[7]

In his many conversations with Turner he maintained he had 'never heard him utter a single rule on colour, though he had frequently heard him...talk of "trying" to do a thing.'[8] In developing this theme Ruskin rejected the theories which had led to the systematic internal decoration of the Crystal Palace, as devised by Owen Jones and Sir David Brewster, and asserted that 'a man of no talent, a bad colourist, would be ready to give you mathematical reasons for every colour'[9] he employed, but these rules 'would never teach anyone to colour.'[10] It was through the close observation of nature that the true artist could learn how best to make use of colour;

> 'The most efficient mode by which a knowledge of colour could be obtained by the artist was by casting all rules behind his back, and trusting to his own instincts when in a calm and healthy state, watch for everything, look carefully for everything in nature which was beautiful. Whenever any combination of colours or a colour particularly beautiful was found, note it carefully...it might furnish some hint, and there was no hour of the day in which something might not be learned. Fettered by rules, all these opportunities of gaining knowledge would be lost to the student.'[11]

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[7] RUSKIN (1887): *Notes on Modern Art*, Works XIV, p.362
[8] RUSKIN (1854): *Lectures on Architecture and Painting*, Works XII, p.500
[9] RUSKIN: *Lectures on Architecture*, Works XII, p.500
[10] RUSKIN: *Lectures on Architecture*, Works XII, p.502
[11] RUSKIN: *Lectures on Architecture*, Works XII, p.502. Ruskin added that 'He was most anxious, in any remarks which he had made that he should not be understood as depreciating the value of any of these ably illustrated works of Mr Owen Jones and others who had studies the subject of the law of colour – a subject, in the abstract, of great interest.'

In arguing that nature provided examples for the harmonious blending of colours, Ruskin was more often speaking of painting, but in regard to architectural colour he believed nature to be of even greater relevance,

> 'in this separate art of colouring, as referred to architecture, it is very notable that the best tints are always those of natural stones. These can hardly be wrong; I think I never saw yet an offensive introduction of the natural colours of marble and precious stones, unless in small mosaics, and in one or two glaring instances of the resolute determination to produce something ugly at any cost. On the other hand I have most assuredly never yet seen a painted building, ancient or modern, which seemed to me quite right.'[12]

Not only was Ruskin convinced that nature provided lessons in the harmonious blending of colour, he also used the example of nature to show the shortcomings of mechanically drawn ornament or what he referred to as 'doggrel ornamentation'. Much of the ornament which had been appearing in contemporary Gothic Revival buildings had been created by techniques which relied on the use of repetitive decorative motifs, such as stencilling and encaustic tile work and this Ruskin abhorred. If, for example, one took flowers or leaves as the basis of a stylised pattern and then repeated it again and again this was contrary to the example of nature, he claimed. In nature a leaf or flower might conform to a common shape but each had a common liberty varying in shape or colour so that no one was exactly the same as its fellows. Ornament which was produced by craftsmen who were allowed to vary the patterns by reference to natural forms would, according to Ruskin, always be superior to that which had been produced by mechanical means. He insisted that in ornament, as in every other aspect of architectural design there should be continuous evidence of thoughtfulness and feeling on the part of its creator:[13]

> 'great art, whether expressing itself in words, colours or stones, does <u>not</u> say the same thing over and over again; that the merit of architectural, as of every other

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[12] RUSKIN: *Stones of Venice* I, Works IX, p. 266
[13] UNRAU: p.120

art, consists in its saying new and different things; that to repeat itself is no more a characteristic of genius in marble than it is of genius in print;...'[14]

This idea that a craftsman should be given some liberty in the way the ornament is painted is not an issue on which either Owen Jones or Pugin seemed to have expressed opinions. Clearly, however, both are implicated directly or indirectly by Ruskin's criticism. In Owen Jones's case Ruskin was explicit with his criticism of Islamic ornament. The Alhambra and common Moorish ornament is mentioned as an example of 'vulgar ornamentation in which entirely rigid laws of line are always observed.'[15] In defining different forms of decorative art in *The Two Paths*,[16] Ruskin observed (in a remark clearly directed against Jones) that the 'Hindoo and Arab' had approached the task without 'nature at all' and had produced the 'detestable' decoration of the Alhambra.

'It is a late building, a work of the Spanish dynasty in its last decline, and its ornamentation is fit for nothing but to be transferred to patterns of carpets or bindings of books, together with their marbling, and mottling and other mechanical recommendations. The Alhambra ornament has of late been largely used in shop-fronts, to the no small detriment of Regent Street and Oxford Street.'[17]

While Pugin is not specifically criticised by Ruskin in the context of mechanically drawn ornament he is clearly implicated by it. The mass-produced encaustic tiles manufactured by Minton and designed by Pugin, the designs for wallpaper produced by Crace and stencil patterns used at St Giles, Cheadle are all representative of the kind of mechanically produced ornament which Ruskin so abhorred.

Ruskin's ideas as to what actually constitutes architectural ornament need some explanation since they differ so greatly to those of Owen Jones and Pugin. For Ruskin

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[14] RUSKIN: *Stones of Venice* II, Works X, p.206
[15] RUSKIN (1856): *Modern Painters*, Vol. IV, Works VI, p.332
[16] RUSKIN (1859): *The Two Paths,* Works XVI, p.310

ornament held a prime place in architecture; so important that he considered it was the ornament of a building which determined whether it was to be thought of as a work of architecture or merely a building.

> 'the highest nobility of a building does not consist in its being well built, but in its being nobly sculptured or painted.'[18]

Thus if a house is designed so that it is of the right size for its owner and meets all his practical requirements with windows of sufficient size and in the right places, and the building is constructed solidly but at economical cost, all these factors being taken care of satisfactorily but without regard to any aesthetic considerations or any attention to the inclusion of Fine Art then it could only be a building. For that building to become architecture the 'divine part of the work' had to take place, the 'dead walls' being turned into 'living walls'.

> 'Only Deity, that is to say, those taught by Deity, can do that.
> And that is to be done by painting and sculpture, that is to say by ornamentation.'[19]

But for Ruskin ornamentation or 'decorative art' as he preferred to call it, fell into two categories, 'unconventional' art and conventional art. Of these he believed the greatest art is the unconventional, by which he means that sculpture and painting, which has been specially created for a building, and is by its nature a permanent part, but 'subordinated to the purpose it has to serve in that place.'[20] Such ornamentation should be natural - that is to say, should in some degree express or adopt the beauty of natural objects. This idea is expressed in the statement given in the *Stones of Venice*: 'All noble ornament is the expression of man's delight in God's work.'[21]

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[17] RUSKIN: *Stones of Venice* I, Works IX, p.469. In a footnote Ruskin adds 'I have not seen the building myself, but Mr Owen Jones's work may, I suppose, be considered as sufficiently representing it for all purposes of criticism.'
[18] RUSKIN: *Lectures on Architecture*, Works XII, p.83
[19] RUSKIN: *Lectures on Architecture*, Works XII, p.84
[20] RUSKIN: *Two Paths*, Works XVI, p.322
[21] RUSKIN: *Stones of Venice* I, Works IX, p.264

However, in situations where it would not be appropriate to use sculpture or painting as the ornament, for example where it would be liable to wear and tear, then there is a case for some inferior form of decorative art to be used. This is what Ruskin refers to as 'conventional art'. In such instances it is advisable to avoid following the form of natural objects and better to adopt more abstract non-associational forms such as zigzags or chequers.[22] In regard to the use of colour in conventional ornament Ruskin advanced the idea that abstract colour is not an imitation of nature, but *is* nature itself and that wherever colour is introduced, ornamentation might cease to represent natural objects, and could

> 'consist in mere spots, or bands, or flamings, or any other condition of arrangement favourable to the colour.'[23]

In writing thus in *Lectures on Architecture and Painting* Ruskin was reiterating the position he had already taken in *The Seven Lamps of Architecture*:

> 'all arrangements of colour, for its own sake, in graceful forms, are barbarous; and that, to paint a colour pattern with the lovely lines of a Greek leaf moulding, is an utterly savage procedure. I cannot find anything in natural colour like this: it is not in the bond. I find it all in natural form - never in natural colour. If, then, our architectural colour is to be beautiful as its form was, by being imitative, we are limited to these conditions - to simple masses of it, to zones, as in the rainbow and the zebra; cloudings and flamings, as in marble shells and plumage, or spots of various shapes and dimensions.'[24]

Here, Ruskin was expressing thoughts central to his way of looking at the lessons which could be learned from nature - it was not only the colours themselves which should follow nature, they must be used in a way which follows their use in nature: colour itself could be regarded as the ornament rather than it being the colouring of ornament.

The last chapter was concerned with the part which colour had played in religious and heraldic symbolism and it is interesting to see how Ruskin reacted to this subject. At an opening meeting of the Architectural Museum, held at the South

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[22] RUSKIN: *Two Paths*, Works XVI, p.322
[23] RUSKIN: *Lectures on Architecture*, Works XII, p.94

Kensington Museum in 1858, Ruskin delivered an inaugural lecture entitled 'The Decorative Power of Conventional Art Over Nations'. In an aside, while discussing the development of Gothic architecture in England and France, Ruskin cautioned his audience against being susceptible to the more romantic associations with medieval art and instead to gain a proper understanding of what Gothic art had to say about the power of nature;

> 'all you students who love this medieval art, there is no hope of your ever doing any good with it, but on this everlasting principle. Your patriotic associations with it are of no use; your romantic associations with it - either of chivalry or religion - are of no use; they are worse than useless, they are false. Gothic is not an art for knights and nobles; it is an art for the people; it is not an art for churches or sanctuaries; it is an art for houses and homes...Leave, therefore, boldly, though not irreverently, mysticism and symbolism on the one side;...you will find - that the living power in all the real schools, be they great or small, is love of nature.'[25]

We find then here a rare accord between Ruskin and Jones in that they shared the view that medieval art, and the symbolism which was part of it, was inappropriate for contemporary society. Like Jones, he felt that society was drawn to medieval art for the wrong reasons, these being essentially romantic. Both believed this form of art reflected the beliefs and values of a different age and could in no way be representative of the age in which they lived.

Up to this point the thinking of Ruskin in regard to architectural colour has been illustrated by passages from his works which deal with the subject in a largely general and abstract way. The next part deals with the more specific suggestions which Ruskin makes concerning the role that colour can play in the ornamentation of buildings and the ways in which this may be put into practice. This is intended to provide an introduction to a further section in this study which discusses the ways in which Ruskin's ideas may

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[24] RUSKIN (1849): *The Seven Lamps of Architecture*, Works VIII, p.180

[25] RUSKIN: *Two Paths*, Works XVI, p.284. These beliefs did not prevent Ruskin from maintaining an active interest in the symbolism of heraldic colours, an interest which extended into the symbolism of coloured stones as it originated in Jewish history and later passes in the symbolism of Christian heraldry. This is discussed in 'The Iris of the Earth' in *Deucalion* (1875-83) Vol. 1, Works XXVI, pp.179-87

have influenced the development of certain features in the designs of a small group of contemporary buildings.

While some of Ruskin's ideas can be difficult to interpret or are somewhat abstract in expression, there is one topic on which he seems to remain constant, this being his belief that the colours of architecture should ideally come from stone.

> 'The true colours of architecture are those of natural stone...Every variety of hue from pale yellow to purple, passing through orange, red and brown, is entirely at our command; nearly every kind of green and grey is also attainable; and with these, and pure white, what harmonies might we not achieve? Of stained and variegated stone, the quantity is unlimited, the kinds innumerable; where brighter colours are required let glass, and gold protected by glass, be used in mosaic - a kind of work durable as the solid stone, and incapable of losing its lustre by time...'[26]

This passage comes as a reminder that for Ruskin brick could never really take the place of stone as an ornamental material. On the island of Murano, Venice, Ruskin visited a ruined church which was for the most part composed of yellow brick. It is a rare case of Ruskin describing a mainly brick building with a degree of enthusiasm but even here it is not the brick itself which meets with Ruskin's approval, it is the fact that it acts principally as a foil for the applied marble ornament.

> 'We have...externally a heptagonal apse, chiefly of rough and common brick, only with marble shafts and a few marble ornaments; but for that very reason all the more interesting, because it shows what can be done with materials such as are now at our command.'[27]

Ruskin went on to describe the brickwork which was a mixture of very yellow bricks 'much more positive and somewhat darker than that of our English light brick' and others which were a deep full red - used in this case for 'decoration chiefly'. It is not the brickwork however which is the principal constituent of the coloured ornamental effect. This comes from small inlaid triangles of marble in white and a variety of

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[26] RUSKIN: *Seven Lamps,* Works VIII, p.80
[27] RUSKIN: *Stones of Venice* II, Works IX, p.47

colours, deep green, deep red, grey and black, yellow and purple (see Fig. V.1).[28] If we are to look for an English example of polychrome brickwork - Christ Church, Streatham, by Wild - received Ruskin's qualified approval for the way in which it showed how the colours of brickwork could be gracefully disposed by throwing them into chequered patterns,[29] but what were his reservations? Ruskin made it clear that he regarded brick as an inferior grade material and one only to be used by virtue of economic necessity. He came to associate it with railway architecture and in *Time and Tide* denounced the amount of money which had been spent on 'ornamental arrangements of zigzag bricks, black and blue tiles, cast iron foliage and the like' on railway buildings, exclaiming *all that architecture is bad.*[30]

Reference has already been made to Ruskin's belief that rules 'would never teach anyone to colour', but during 1858-59 Ruskin delivered a series of lectures on art and 'its application to decoration and manufacture' in which he was persuaded to make some clear statements concerning certain requirements that must be satisfied before a colour arrangement could be pleasing to his own eye.[31] In *The Two Paths* Ruskin, therefore, set down five laws which he claimed might 'enable no one to produce good colour [but], are at least...accurately condemnatory of bad colour.' The first of these laws stated that *all good colour is graduated.* Ruskin explained further what he meant by this:

> 'the first necessity of beauty in colour is gradation, as the first necessity of beauty in line is curvature, - or that the second necessity in colour is mystery or subtlety, as the second necessity in line is softness. Colour ungradated is wholly valueless; colour unmysterious is wholly barbarous. Unless it loses itself and melts away towards other lines colour has no proper existence, in the noblest sense of the word. What a cube, or tetrahedron, is to organic form, ungradated and unconfused colour is to organic colour.'[32]

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[28] RUSKIN: *Stones of Venice* II, Works X, p.50-51
[29] RUSKIN: *Stones of Venice* I, Works IX, p.349
[30] RUSKIN (1867): *Time and Tide*, Works XVII, p.390
[31] UNRAU: p.145
[32] RUSKIN: *Two Paths*, Works XVI, p.423

But elsewhere Ruskin expanded on what he meant by gradation,

> 'it is not enough in general that colour should be gradated by being made merely paler or darker at one place than another. Generally colour changes as it diminishes, and is not merely darker at one spot, but also purer at one spot than anywhere else. It does not in the least follow that the darkest spot should be the purest; still less so that the lightest should be the purest. Very often the two gradations more or less cross each other, one passing in one direction from paleness to darkness, another in another direction from purity to dullness, but there will almost always be both of them, however reconciled.'[33]

In making these observations Ruskin provides an insight into why marble, or for that matter any other stones of variegated colour composition had so much appeal for him with its ever changing colours and shades. This appeal is acknowledged:

> 'The colours of marble are mingled for us just as if on a prepared pallette. They are of all shades and hues (except bad ones), some being united and even, some broken, mixed and interrupted, in order to supply, as far as possible, the want of the painter's power of breaking and mingling the colour with the brush.'[34]

The second of Ruskin's laws concerns refinement in the use of colour - *All harmonies of colour depend for their vitality on the action and helpful operation of every particle of colour they contain.* As Ruskin expands on this theme it is apparent that it is directed more at the painter or perhaps the mosaic artist than the architect:

> 'In every given touch laid on canvas if one grain of the colour is inoperative, and does not take its full part in producing the hue, the hue will be imperfect. The grain of colour which does not work is dead.'[35]

This principle links closely with the third which states that, *the final particles of colour necessary to the completeness of a colour harmony are always infinitely small.* Ruskin's point here relates closely as well to the issue of colour gradation. Here he advises that individual colours should not be allowed to overpower the others but should be limited so that bright spots of colour are balanced with the adjacent ones in a way which creates a pleasing effect for the eye at an intended distance.

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[33] RUSKIN (1857): *The Elements of Drawing*, Works XV, p.148
[34] RUSKIN (1853): *Stones of Venice* III, Works XI, p.38
[35] RUSKIN: *Two Paths*, Works XVI, p.419

> 'every piece of blue that you lay on must be *quite* blue only at some given spot, nor that a large spot; and must be gradated from that into less pure blue-greyish blue, or greenish blue, or purplish blue, - over all the rest of the space it occupies.'[36]

Ruskin's fourth principle has to do with colour blending and recalls the kind of effects which led Chevreul to carry out his experiments on optical colour mixing,[37] *no colour harmony is of high order unless it involves indescribable tints.* Ruskin develops this train of thought by saying,

> 'It is the best possible sign of a colour when nobody who sees it knows what to call it, or how to give an idea of it to anyone else. Even among simple hues the most valuable are those which cannot be defined; the most precious purples will look brown beside pure purple and purple beside brown; and the most precious greens will be called blue if seen beside pure green, and green if seen beside pure blue.'[38]

The last of Ruskin's principles offers the observation that *the finer the eye for colour, the less it will require to gratify it intensely.* But, he adds,

> 'that little must be supremely good and pure, as the finest notes of a great singer, which are so near to silence. And a great colourist will make even the absence of colour lovely, as the fading of the perfect voice makes silence sacred.'[39]

It has to be said that these five laws, or principles, seem principally of value for the way in which they reveal Ruskin's perception of the part which colour played in natural objects and phenomena. This way of seeing is essentially that of a painter and the ideas not easily transferable to the colouring of architectural ornament, unless it is through the medium of mosaic, or through the choice of natural colours of the stone used in a building. This way of seeing colour through close observation of nature is therefore very far removed from Owen Jones's much more scientific and intellectualised approach to the part which colour could play in ornament.

The subject of the relationship between colour and form brought to the fore these differences of approach between the two men and will be the last of Ruskin's principles

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[36] RUSKIN: *Elements*, Works XV, p.148
[37] See Chapter 1 of this thesis

to be discussed in this section. In *The Seven Lamps of Architecture* Ruskin observed that,

> 'the first broad conclusion we shall deduce from observance of natural colour...will be, that it never follows form, but is arranged on an entirely separate system.'[40]

In support of his contention Ruskin famously used the example of the zebra whose 'stripes do not follow the lines of its body or limbs, still less the spots of a leopard', a remark curiously blind to the fact that the purpose of the markings was to camouflage by disguising the form. From this he developed what he maintained was the first great principle of architectural colour;

> 'Let it be visibly independent of form. Never paint a column with vertical lines, but always cross it. Never give separate mouldings separate colours;...and in sculptured ornaments do not paint the leaves or figures...of one colour and their ground of another, but vary both the ground and the figures with the same harmony.'[41]

But, as John Unrau has pointed out,[42] the use of paint on the carved ornament of northern Gothic often contraverts the notion that form and colour should operate independently in architectural design. In the second volume of *The Stones of Venice* Ruskin undermines his principle by admitting that carved ornament which is highly naturalistic justifies the abandonment of abstract colour harmonies which are independent of the forms they modify. Ruskin observed that in the porch of Bourges Cathedral there had been an abundance of carved stone ornament in imitation of hawthorn and rather than leave it grey the architect had chosen to have it painted.

> He did not at all like grey hawthorn, but preferred it green, and he painted it green accordingly, as bright as he could. The colour is still left in every sheltered interstice of the foliage. He had, in fact, hardly the choice of any other colour; he might have gilded the thorns, by way of allegorizing human life, but if they were to be painted at all, they could hardly be painted anything but green, and green all over. People would have been apt to object to any pursuit of

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[38] RUSKIN: *Two Paths*, Works XVI, p.424
[39] RUSKIN: *Two Paths*, Works XVI, p.424
[40] RUSKIN: *Seven Lamps*, Works VIII, p.177
[41] RUSKIN: *Seven Lamps*, Works VIII, p.177-8
[42] UNRAU: *Looking at Architecture,* p.149

abstract harmonies of colour, which might have induced him to paint his hawthorn blue.

In the same way, whenever the subject of sculpture was definite, its colour was of necessity definite also, and, in the hands of the Northern builders, it often became, in consequence, rather the means of explaining and animating the stories of their stone-work, than a matter of abstract science.'[43]

The differences between Ruskin's and Owen Jones's principles concerning the relationship between colour and form are also brought out by Ruskin's lecture on *The Elements of Drawing.*

'The gradations of colour in the various shadows belonging to various lights exhibit form, and therefore no one but a colourist can ever draw forms perfectly; but all notions of explaining form by superimposed colour, as in architectural mouldings, are absurd. Colour adorns form, but does not interpret it...Colour may, indeed, detach one shape from another, as in grounding a bas-relief, but it always diminishes the appearance of projection, and whether you put blue, purple, red, yellow, or green, for your ground, the bas-relief will be just as clearly or just as imperfectly relieved, as long as the colours are of equal depth. The blue will not retire the hundredth part of an inch more than the red one.'[44]

If Ruskin had looked at the second volume of *The Alhambra* and seen Owen Jones's coloured plates of the ornament it would have been apparent that there Jones conclusively showed that colour played an important part in emphasising the different planes of the bas-relief. It is unlikely, however, that Ruskin would have admitted this, his prejudice against the Alhambric ornament being so complete.

Over and beyond his general ideas and more specific principles concerning colour Ruskin developed certain themes which were capable of being translated more directly into architectural ornament by others. These themes fall broadly into two categories; those which owe their origin to natural (mainly geological) phenomena, and those which originate from Ruskin's observation of the detail in Italian Gothic buildings. This last section is therefore devoted to a study of these themes and explained by reference to a small group of contemporary buildings in Britain which are known to have been influenced by them.

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[43] RUSKIN: *Stones of Venice* II, Works X, p.110-11

Ruskin's direct influence on the design of a major building was first felt when the competition for the Oxford University Museum of Physical Sciences was won in 1855 by the Irish architects Deane and Woodward. These architects were already in sympathy with Ruskin's ideology and had been influenced by *The Seven Lamps of Architecture* and *The Stones of Venice*. At that time they had produced their design for a new museum building at Trinity College, Dublin.[45] From the earliest stages, when the idea of building a Museum of Physical Sciences was first advocated by the Oxford Professor of Medicine, Henry Acland, through to the period when the design was being developed, Ruskin was to be closely involved with the scheme. The foundation of a Museum at Oxford interested Ruskin, for two particular reasons. First, he was strongly in favour of the fact that Natural History had been recognised as one of the studies of the University; and secondly, he was determined that in the 'battle of the styles' which was such an important feature of the competition, his own University should decide in favour of Gothic.[46] Once Deane and Woodward's design had been selected as the winning one in the competition Ruskin came to regard it as an ideal vehicle for the expression of his principles concerning architectural ornament. In a letter to Acland (1858) Ruskin set down what he regarded as the three great principles of Gothic decoration which should inform the work of Revivalist architects; the second of these, which seems particularly appropriate for a Museum of Physical Sciences, is that 'all art employed in decoration should be informative, conveying truthful statements about natural facts, if it conveys <u>any</u> statement.'[47]

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[44] RUSKIN: *Elements*, Works XV, p.157

[45] For accounts of Ruskin's influence on Deane and Woodward's design for Trinity College Museum, Dublin, see BLAU, EVE (1982): *Ruskinian Gothic: The Architecture of Deane and Woodward 1845-1861* (Princeton, NJ: Princeton University Press) pp.31-47 and O'DWYER, FREDERICK (1997): *The Architecture of Deane and Woodward* (Cork: Cork University Press) pp. 152-283

[46] RUSKIN (1859): *The Oxford Museum*, Works XVI, p.xli

[47] RUSKIN: *The Oxford Museum*, Works XVI, p.214

In the central courtyard of the building we find this principle being applied in conjunction with another one which has been previously referred to, the idea that 'the true colours of architecture are those of natural stone'. This central court (Figs.V.2 & 3), is surrounded by an open arcade of two storeys. On the ground-floor are thirty-three piers and thirty shafts; on the upper, thirty-three piers and ninety-five shafts. The shafts were carefully selected, under the direction of the Professor of Geology, and were chosen so as to provide examples of many of the most important rocks in the British Isles (Fig.V.4). This variety of different rocks ranging in colour from blue to yellow and green to red therefore triumphantly achieves Ruskin's principle that architectural colour can be provided by the hues of natural stone.

But if this building provides an excellent example of this particular principle being successfully put into practice it also exposes certain limitations in Ruskin's theories concerning the use of colour in architecture. The glazed roof over the central courtyard is supported by a structure of cast iron columns and wrought iron beams. Decorative ironwork is used in conjunction with the structural elements with the same objective of providing information about natural phenomena.

> 'The representation is of interwoven branches, with leaf and flower and fruit, of various trees of native or exotic growth...The same principle is applied in various parts of the minor decorations - in the capitals, and in the trefoils of the girders, there nestle leaves of elm, brier, water lily, passion flower, ivy, and holly.'[48]

At a time when construction of the Museum was well advanced Ruskin's opinion was sought by Acland as to how the interior of the building should be decorated since the ironwork clearly could not be left in its natural state otherwise it would rust. The way in which Ruskin reacted to this request is revealing. In a letter to Acland he confessed his difficulties in coming to any conclusions on the matter:

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[48] RUSKIN: *The Oxford Museum*, Works XVI, p.li

> 'I found it impossible to lay down any principles respecting the decoration of the Museum which did not in one way or another involve disputed points, too many, and too subtle, to be discussed in a letter.'[49]

Later in the same letter to Acland Ruskin advised putting off the decorations until much greater thought had been given to the matter.

> 'The laws of colour are definable up to certain limits, but they are not yet defined. So far are they from definition, that the last, and on the whole, best work on the subject (Sir Gardner Wilkinson's)[50] declares the "colour concords" of preceding authors to be discovered, and *vice versa*.
>
> Much therefore, as I love colour decoration when it is rightly given, and essential as it has been felt by the great architects of all periods to the completion of their work, I would not, in your place, endeavour to carry out such decoration at present, in any elaborate degree, in the interior of the Museum. Leave it for future thought.'[51]

This was not the first time that Ruskin had admitted having difficulty in knowing how to decorate ironwork. In the Appendix to a lecture delivered at Tunbridge Wells in 1858 Ruskin remarked:

> 'The difficulty of colouring ironwork rightly, and the necessity of doing it in some way or other, have been the principal reasons for my never having entered heartily into this subject; for all the ironwork I have ever seen look beautiful was rusty, and rusty iron will not answer modern purposes. Nevertheless it may be painted; but it needs someone to do it who knows what painting means, and few of us do - certainly none, as yet, of our restorers of decoration or writers on colour.'[52]

Clearly Owen Jones was not one of those who Ruskin had in mind when he said it needed someone who knew what painting means, but it would have been interesting to speculate how he would have approached the task of painting the ironwork of this building, so different in character to the Crystal Palace. As it was, the cautious and unimaginative colour scheme eventually adopted pleased no one, least of all Ruskin.[53]

Writing to his father from Oxford in January 1859 Ruskin showed his disappointment:

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[49] RUSKIN: *The Oxford Museum*, Works XVI, p.218
[50] WILKINSON, GARDNER (1858): *On Colour and the Diffusion of Taste* (London: John Murray)
[51] RUSKIN: *The Oxford Museum*, Works XVI, p.225
[52] RUSKIN: *The Oxford Museum*, Works XVI, p.423
[53] Colour is applied sparingly in stencilled patterns, the principal colour being buff, against a light grey ground. Originally the ironwork was painted white, buff and a dark brownish purple to match the colours of the surrounding stone and brick in the inner court.

> 'I've been over the Museum carefully. All the practical part, excellent. All the decorative in colour, vile. It is the best error to make of the two.'[54]

From an early age Ruskin had maintained an ardent interest in geology and mineralogy. It is evident from his sketches that rock formations appealed to his artistic eye but his enthusiasm seems to have been kindled first by the writings of Charles Lyell,[55] who between 1830 and 1833, published his ideas on how the earth's surface came to be created in his *Principles of Geology*.[56] Lyell's books refuted the origins of the earth as set down in *Genesis* and set out to show that the formation or modification of features such as valleys and mountains was not due to sudden catastrophes but had occurred over very long periods of time. Ruskin's own literary output on the subjects of geology and mineralogy appears principally in *Modern Painters 4* published in 1856 and *Deucalion*, published between 1875 and 1883. During his travels on the Continent Ruskin had visited the mountains above Zermatt and there he saw the sheer face of a rock spur, formed thousands of years before by a glacier, in which the various layers of stone produced a striated effect:

> 'Through the buttress and the wall alike, the courses of its varied masonry are seen in their successive order, smooth and true as if laid by line and plummet, but of thickness and strength continually varying...'[57]

In considering this phenomena Ruskin remarked that there were very few cliffs which did not have 'alternations between compact and friable conditions of their material' and that building construction often relied on the same principle of bonding strong and relatively weak materials together so as to create a substantial whole;

> It is better and easier to strengthen a wall necessarily of imperfect substance, as of brick, by introducing carefully laid courses of stone, than by adding to its thickness; and the first impression we receive from the unbroken aspect of a

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[54] RUSKIN: *The Oxford Museum*, Works XVI, p.lii Letter of 6 January 1859 from Ruskin to his father.
[55] Speaking at a public engagement in 1875, shortly after Lyell's death, Ruskin said he regarded himself as a scholar of Sir Charles Lyell.
[56] LYELL, C. (3 vols. 1830-33): *Principles of Geology: Being an Attempt to Explain the Former Changes of the Earth's Surface by Reference to Causes now in Operation* (London: John Murray)
[57] RUSKIN: *Stones of Venice* I, Works IX, p.88

wall-veil, unless it be of hewn stone throughout, is that it must be both thicker and weaker than it would have been had it been properly coursed.'[58]

But this method of construction offered an idea for decorative effect in the wall-veil:

'For it is perfectly natural that the different kinds of stones used in its successive courses should be of different colours; and there are many associations and analogies which metaphysically justify the introduction of horizontal bands of colour, or of light and shade.'[59]

At Ettington Park in Warwickshire we have an excellent example of this idea being successfully put into practice. In 1856 Ettington was inherited by Evelyn Shirley as part of a considerable family estate. At that time the house was described as being large and irregular, having been reconstructed at different periods.[60] Internally the house was spacious and comfortable but the external appearance was rambling and ugly. Shirley was a man of cultivated tastes, being an antiquarian and a genealogist, and he felt that the house deserved an exterior which was more in keeping with its interior. He therefore decided to carry out major alterations, retaining many of the existing rooms but completely reconstructing the exterior.

Initially G.E. Street was engaged to prepare proposals but these were evidently not to Shirley's liking and he turned instead to John Prichard, a predominantly church architect and at that time the Llandaff diocesan architect. Shirley's choice of Prichard seems at first a curious one since up to that time he had only been involved in the design of one country house. It appears, however, that Shirley's antiquarianism led him to look for a Gothic solution for the redesign of the exterior but not one which necessarily imitated the style of English medieval houses. Prichard's credentials were that he had trained under Pugin's principal assistant, he had travelled widely on the Continent and (like Shirley) he took a keen interest in Ruskin's writings. In 1858 construction of the Oxford University Museum was well advanced and Prichard evidently visited it while

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[58] RUSKIN: *Stones of Venice* I, Works IX, p.88
[59] RUSKIN: *Stones of Venice* I, Works IX, p.347

he was preparing his plans. It seems likely also that E.P. Shirley (ex-Magdalen College, Oxford) was the Mr Shirley who defended Woodward's cause at an 1858 meeting of Convocation at Oxford University.[61]

The actual sources for Prichard's design are varied but its principal architectural features seem to originate largely from Italian models, such as the square tower with its staircase leading to the gallery (Fig. V.5) and from French models as the round turret, the porte-cochère and the treatment of the roof over the south range (Fig. V.6). In its treatment of the facade Ettington does, however, show considerable originality on the part of the architect in the way he has put into practice Ruskin's ideas concerning the use of horizontal bonds of coloured stones in the wall-veil in the manner of geological depositions. The facade is built of five different kinds of stone arranged in contrasting bands. Most of the stone came from local quarries, some of them on Shirley's own estates and included brown Hornton ironstone, yellowish Cotswold oolite from Chipping Campden and Blockley, and blue lias from Wilmcote, near Stratford.[62] The coursing of these stones is carried all round the building and is even carried through the masonry of the window openings (Figs. V.6 & 7) to create the very effects which Ruskin suggested: furthermore, it is true to the principle that stones of varying compressive strength and density can be bonded to produce walling of overall strength. In places it is noticeable that soft honey-coloured sandstone has been eroded away on its surface while the light grey lias and dark brown Hornton sandstone courses have not been subject to erosion in the same way. The same varying range of stones is used to provide voussoirs of contrasting colours in the window arches (Fig. V.8) and for the arches of the porte-

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[60] TYACK, GEOFFREY (1979): 'A Victorian Architectural Correspondence', *Architectural History*, 22, pp.78-9
[61] BROOKS: p.167
[62] TYACK: 'Architectural Correspondence', p.81

cochère. Eastlake described the building as being 'of consummate skill in the details' and of genuine and unstrained architectural effect.[63]

In one further way Ettington provides a graphic demonstration of another of Ruskin's principles and this concerns the way in which architectural colour may be used to set off sculpture. On the west and south facades there is a great deal of carving, much of it in relief panels, commemorating the heroic deeds of past members of the Shirley family. Prichard and Shirley were thereby acknowledging Ruskin's contention that:

> 'it is in becoming memorial or monumental that a true perfection is attained by civil and domestic buildings; and this partly as they are, with such a view, built in a more stable manner, and partly as their decorations are consequently animated by a metaphorical or historical meaning.'[64]

As we look at the carved relief panels (Fig. V.7) we become very aware of the part which the horizontal bands of coloured stone play in setting off the sculpture. This again recalls a statement by Ruskin in *The Seven Lamps:*

> 'a perfect building should be composed of the highest sculpture...associated with pattern colours on the flat or broad surfaces. And we find, in fact, that the cathedral of Pisa,...exactly follows this condition, the colour being put in geometrical patterns on its surfaces,...I think that the grace of the carved forms is best seen when it is thus boldly opposed to severe traceries of colour, while the colour itself is, as we have seen, always more piquant when it is put into sharp and angular arrangements. Thus the sculpture is approved and set off by the colour, and the colour seen to the best advantage in its opposition both to the whiteness and the grace of the carved marble.'[65]

The manner in which the sculpture is set off by the coloured stone bonding at Ettington may not conform exactly to Ruskin's description, nor is the sculpture of marble, but it follows the same idea. This is demonstrated by the carved figure in a niche at the top of a buttress and the sculptured panels over the windows in the bay (Fig. V.7). By using bands of contrasting colour, in which the stone has been carefully selected and the colours gradated with subtlety, the architect has succeeded in creating

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[63] EASTLAKE: p.306
[64] RUSKIN: *Seven Lamps*, Works VIII, p.225
[65] RUSKIN: *Seven Lamps*, Works VIII, pp.186-7

an effect of geological rock strata which gives it a sense of affinity with the landscape. It has none of the harshness of effect which one sees, for instance in the 'streaky bacon style' of Butterfield's chapel at Balliol College Oxford (Fig. V.9).

Of almost equal interest to Ettington Park as a Ruskin derivative is Northampton Town Hall. Edward Godwin the architect won a competition for the Town Hall when he was only twenty-eight. As Pevsner remarks, 'Godwin himself stated afterwards that he was strongly influenced by Ruskin's *Stones of Venice* which he had read just before the competition.'[66]

The Ruskin principles concerning architectural colour which have already been discussed in relation to Ettington apply for the most part to Northampton Town Hall but there are some differences worth noting. As a county Northamptonshire has an abundance of good stone with a wide range of colours available, which range from the rather bleached looking stone of the Oolite formations, to warm gingerbread coloured Marlstone, to dark rusty colour ironstones quarried around Corby.[67] Godwin was able to take advantage of this profusion of good local building stone and use the contrasting colours in a variety of ways for architectural effect. The one which strikes the eye first is the use of horizontal bonds of ironstone between the first floor windows, graded from the darkest at the bottom and making the upper storey sit firmly on the decorated string course between the ground and first floors (Fig. V.10). Further horizontal bands of ironstone bridge the spandrels between the windows and entrance porch arches of the ground floor. In contrast to Ettington the use of banding is more studied and lacks that effect of simulated geological stratification, which Ettington succeeds in producing. Contrasts in the colours of stone have also been used to emphasise the arches over the windows and entrance porch. The stone used for the arches has been selected not only

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[66] PEVSNER, NIKOLAUS (1973 2nd ed. revised CHERRY, BRIDGET): *The Buildings of England: Northamptonshire* p.325 quoting *The British Architect* (1878): Vol. 2, p.210

so as to produce contrasts between the individual voussoirs but also between the arches and surrounding stonework above and in the spandrels. Here, the variations in the stone colours show off that quality of gradation in colour which for Ruskin was one of the great virtues of natural materials. In the entrance porch Godwin has increased the level of contrast between voussoirs in the blind arches and the vaulting, presumably because it is permanently in shadow (Fig. V.11). This also serves the purpose in the blind arches of giving emphasis to the relief sculpture in the manner which Ruskin suggested and as previously discussed in relation to Ettington. The sculpted figures between the windows at first floor level are similarly set-off by the darker stones of the arches.

One further direct reference to Ruskin's ideas concerning architectural colour occurs in the decoration of the spandrels between ground floor arches (Fig. V.12). The triangular ornaments are obviously derived from the illustrations which appeared in the second volume of *The Stones of Venice* when Ruskin described the use of such triangles at the Church of San Donato on the island of Murano, near Venice (Fig. V.1). Before he had discussed these Ruskin had taken another example at Murano, that of the external shafts and capitals surrounding the apse, which alternated between white and purple marble. He pointed out that on these the purple capitals had all been left plain, while the white were all sculptured.

> 'the old builders knew that by carving the purple capitals they would have injured them in two ways: first, they would have mixed a certain quantity of grey shadow with the surface hue, and so adulterated the purity of the colour; secondly they would have drawn away the thoughts from the colour, and prevented the mind from fixing upon it or enjoying it, by the degree of attention which the sculpture would have required. So they left their purple capitals full broad masses of colour; and sculptured the white ones, which would otherwise have been devoid of interest.'[68]

As Ruskin went on to point out, the same principle had been applied to the ornamental white and coloured triangles at Murano. Godwin's avoidance of decoration on the

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[67] PEVSNER: *Northamptonshire*, pp.19-20

marble triangles therefore seems to be in conformity with this principle, of separating colour from decorative carving.

In the three examples which have so far been discussed, Woodward's Oxford University Museum, Prichard's Ettington Park and Godwin's Northampton Town Hall there is therefore clear evidence of Ruskin's ideas concerning architectural colour being put into effect. What do we discover if we make the same kind of comparison between Ruskin's ideas and that milestone in the development of High Victorian architecture, All Saints Church, Margaret Street, London?

The extent to which Ruskin did or did not influence the ornament of All Saints has for long remained a matter of speculation and even in the obituary published in *The Building News* in 1900 the author remarked that Ruskin's *Seven Lamps of Architecture* may or may not have influenced the building.[69] In 1965, however, Paul Thompson examined this question again in some detail and in the light of evidence which had recently been discovered[70] it was revealed that many of the major decisions concerning choice of materials and ornament had not been made until after publication of *The Seven Lamps* in May 1849. In theory it was perfectly possible, therefore, that William Butterfield, the architect, and Alexander Beresford-Hope, the principal patron of the church, might have been influenced by Ruskin's colour theories at a time when the design for the first stage of the church was still being finalised. Thompson pointed out, however, that while Butterfield and Hope may have taken some of Ruskin's theories, the models for their realization almost certainly came from elsewhere. Since there is evidence to suggest that Butterfield's design was at least partially influenced by

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[68] RUSKIN: *Stones of Venice* II, Works X, p.49

[69] *Building News, The*: (1900): Vol. LXXVII, (2 March), p.292. The new evidence which had come to light at that time was a box of letters from Beresford-Hope to Henry Tritton, Hope's principal financial supporter in the scheme.

[70] THOMPSON, PAUL (1965): 'All Saints Church, Margaret Street, Reconsidered', *Architectural History*, 8, pp.73-94 (referenced hereafter as THOMPSON: 'All Saints Church')

Ruskin's theories it is interesting therefore to assess the use of colour at All Saints and see where they do or do not apply.

By the time All Saints was in the design stage in 1849 *The Ecclesiologist* had already accepted that in districts where stone was not readily available the use of brick for a church was appropriate. With plentiful supplies of clay available brick and clay tile had traditionally been the building materials most commonly used for domestic building in London, so there were economic and visual grounds for them to be used now for a church. As a building material brick suffered from government taxes which had been imposed under the Building Acts since 1774. Tax was only applied, however, to the best quality bricks coming from the kilns, and builders consequently made frequent use of misshapen and discoloured bricks in order to save money. Brick had earned a poor reputation, therefore, either because it was expensive, as with the better quality materials, or because of the poor quality material used for dwellings constructed for the poorer classes. By 1849 it was recognised that the tax on good quality bricks was having such an adverse effect on standards in the construction industry that the law must be changed. Under pressure the government passed an Act early in 1850[71] which removed the duty on bricks, and All Saints was an early beneficiary of this legislation. This was a major factor, then, in Butterfield and Hope's decision to use brick as the principal material in the fabric of the building.

From the planning arrangement, whereby the clergy house and choir school were built at the front of the site to form a small courtyard from which the church was entered, to the way it used materials, Butterfield's design for All Saints was to be one of great originality (Figs. V.13, 14 & 15). Although the massing of the elements of the building is relatively simple and the wall surfaces inordinantly flat and untextured, it

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[71] ANON. (1850): 'The Act to Repeal the Duties and Drawbacks of Excise on Bricks', passed 17 May 1850 *The Builder*, Vol. VIII, pp.149 and 190

creates an impression of strong modelling. Where the blue-black bricks occur against the hard red brick walling there is a feeling of recession creating an effect of shadowing. In contrast the yellowish stone seems to advance. It is a reminder of Owen Jones's principle concerning the relationship of these three colours. Below the aisle windows the bricks are coloured in strong bands of red, yellow and blue black, bringing to mind Ruskin's advice on the treatment of the base:

> 'We cannot do better than construct the several members of the base...each of a different coloured marble, so as to produce marked level bars of colour all along the foundation.'[72]

In the spandrels between the aisle windows Butterfield introduced a diaper pattern of blue black bricks with small squares of yellow Bath stone, while below the springing point of the window arches the brickwork is divided into bands of red, yellow and blue black. While the use of strongly patterned diaper recalls Ruskin's advice concerning the use of zig-zags and chequers for 'conventional' ornament the manner in which Butterfield used it was peculiarly his own in the way it drew attention to the structural meaning of the wall. Above the springing point of the arches the walling is principally an infill and here the ornament is made most obvious. Below the imposts the pattern emphasises the stacking of the brickwork and the structural implication of compressive loads. The red brick walling of the building other than the church, the choir school, clergy house, entrance archway and tower is relieved throughout with bands of blue black brick, and forms a unifying feature between the architectural elements. Blue black bricks form deep voussoirs over the windows in these parts of the building and are also used for the diaper work in the gable walls, the walling below the lancet windows in the tower and for the potent cross in the entrance archway. The walling of these parts of the building seems to be notably flat in appearance by comparison to the external wall of the church. The reason for this difference in appearance seems to be due to the absence of

the yellow stone which elsewhere has the visual effect of advancing in front of the red ground, thus creating a three-dimensional effect. The colours are therefore not used to emphasize form - rather, because the wall is so flat they give the effect of relief to an otherwise flat surface. Thus in regard to the relationship between colour and form it combines both Ruskin's and Jones's ideas.

Although Ruskin was complementary about All Saints in general terms, he did not comment specifically. However, his remarks about the interior in *The Stones of Venice* would suggest his reservations about the effect; it seems it was evidently not to his liking.

> 'I do not altogether like the arrangements of colour in the brickwork; but these will hardly attract the eye, where so much has already been done with precious and beautiful marble and is yet to be done in fresco.' [73]

Although he did 'not altogether like the arrangements of colour in the brickwork' of the interior there was sufficient natural stone used there to overcome his objections. The exterior is a different matter. It is the combination of the Bath stone with coloured bricks which provides the decorative colour effect rather than the stone on its own and we may therefore suppose that Ruskin may have been critical of Butterfield's use of brick as the principal agent for decorative effect.

Unlike the exterior, which was constructed over a limited period and is cohesive in its design, the interior only developed slowly and was not completed until 1859 (Fig. V.16). Butterfield did not produce detailed designs for the interior of the church along with the principal construction drawings: a delay in signing a contract with Kelk the builder seems to have been partly caused by the time it took Beresford-Hope and Butterfield to reach agreement about the form the decorations should take. By August 1849, however, a decision had been made in principle as to the form which the

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[72] RUSKIN: *Stones of Venice* I, Works IX, p.333
[73] RUSKIN: *Stones of Venice* III, Works XI, p.229

decorations should take. In a letter to his financial supporter Tritton, Beresford-Hope wrote that:

> 'the aesthetic possibilities of different materials have become more and more clear, and the present scheme is that of a church whose character and beauty and effect of colour shall arise from *construction* and not from superaddition, namely that, the pillars shall be made of granite,...the diaper be an encrustation of tiles, and not the track of a paintbrush and so on.'[74]

As Thompson has pointed out[75] the existence of this letter makes it clear that the decision to ornament the interior with coloured stones and tiles, in preference to fresco on plaster, must have been taken after publication of *The Seven Lamps of Architecture* in May 1849. The decorative tile work over the nave arcades (Fig. V.17) was in place by 1853 and here we can see the influence of examples produced in *The Stones of Venice I* for the filling of the space between two arches, or the spandrel, by using circular motifs[76] (Fig. V.18). There are obviously limits, however, to the extent of Ruskin's influence here for marbles and other naturally coloured stones were the materials advocated by him as the means of providing coloured ornament, not tiling.

One influence may have been Owen Jones's book *Designs for Mosaic and Tessellated Pavements*[77] which in 1842 had publicised Prosser's patented system for the production of mosaic by means of compressed porcelain tesserae and had shown the possibilities for creating richly decorative effects through the use of this material. Another possible factor leading to Butterfield's use of tilework was publication in 1848 of Matthew Digby Wyatt's *Specimens of the Geometrical Mosaic of the Middle Ages*. Wyatt's book helped to kindle a new interest in the use of natural coloured stones for floor decoration and also provided examples of the part which glass mosaic could play in conjunction with natural materials. As Wyatt remarked:

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[74] THOMPSON: 'All Saints Church', p.78, quoting letter from Hope to Tritton, 1 September 1850
[75] THOMPSON: 'All Saints Church', p.78
[76] RUSKIN: *Stones of Venice* I, Works IX, p.35 and plate XIV
[77] JONES OWEN (1842) *Designs* for *Mosaic and Tessellated Pavements* (London: Weale) pp 4-5

> 'To the architect, mosaic affords the most durable, and probably, the most beautiful means of adding to the charms of well studied and varied form the graces of colour; it enables him to study the science of polychromy on the largest scale.'[78]

Many of the examples illustrated are geometrical, abstract, repetitive and Islamic in feeling, without any references to human or animal forms. Besides showing types of paving the book illustrated[79] examples of tombs and monuments which revealed the technique whereby coloured and gilded 'smalto' were let into grooves in the face of white marble and then combined with large slabs of precious metals such as serpentine, porphyry and pavonazzeto.

Butterfield may well have drawn inspiration from this publication, but the colour and pattern used in the wall decoration of the nave arcades is entirely his own and has a characteristic strength and vigour about it. The colours used are yellow ochre, dark red and black against a buff ground, with a Greek cross in the middle of the circle picked out in blue-green. The effect of the nave arcade decoration is to give emphasis to the structural arches themselves, which are left undecorated and without the voussoirs being parti-coloured. The chancel arch was not completed until after 1856, by which time Butterfield's use of colour and pattern had developed. During 1854 he visited France and Northern Italy and we see the style becoming more southern Europe in feeling. Circular motifs in the spandrels remain but in the 'alpha' and 'omega' roundels a greater quantity of blue-green is used to provide greater richness (Fig. V.16). Yellow ochre, dark red and black is now used to describe chevron patterns, which together with bands of stone gives a horizontal emphasis lacking in the nave arcade decoration.

The walling around the baptistry and the connecting arches to the nave display a form of inlaid decoration which Butterfield was to use on many succeeding projects in

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[78] WYATT, MATTHEW DIGBY (1848): *Specimens of the Geometrical Mosaic of the Middle Ages* (London: published by the author), p.21 (referenced hereafter as WYATT)

which patterns were cut into the surface of the structural stonework and then filled with mastic. This appears to be a composition of natural resin and ground mineral which once inserted into the recessed ornament, hardened and was then ground flat with the adjoining stone. The material has remained stable with time. These patterns are filled with black, dark red and yellow ochre mastic in harmony with the colours of the nave arcades and floor encaustic tiles.

A principle enshrined in the social and religious philosophy of All Saints was that moveable seats would be used instead of fixed pews. The purpose of this was to destroy the social divisions of rented pews which had done so much to alienate the urban working classes. It followed from this that the floor tiling layout did not have to reflect pew arrangements; instead it was determined by the planning and liturgy of the interior. For the body of the church the flooring is composed of a grid of white marble strips set on the diagonal with buff and terracotta encaustic patterned tiles at the crossovers and the squares filled with plain black and terracotta tiles. In the aisles the materials and the colours are the same but the pattern changes (Fig. V.19). The chancel and baptistry again have a mixture of stone and encaustic tile but a richer range of colours is used.

Aisle walls have tiled dados, chevron patterns and, at high level, a suggestion of an angular blind arcade in the flush treatment of the polychrome patterns between the roof structural members. In the dado the colour is principally dark red brown, relieved by tiles of light grey-blue, yellow, dark red and dark grey. At the upper level the vertical members are ochre yellow and the horizontal apple green. Brown red tiles fill the spaces between them.

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[79] WYATT: p.21 Examples of mosaics are taken from churches in Italy and Sicily and include St Paul's and St John's, Lateran, Rome; portico of San Lorenzo fuori le mura, Rome; and the cathedrals of Monreale and Salerno, Sicily.

The shafts of the nave cluster columns are of polished red Peterhead granite. These are set on black marble bases and topped with carved alabaster capitals.

Both the pulpit and font are richly inlaid with small pieces of coloured marble and alabaster mosaic and recall Roman 'Cosmati' work[80] of the type illustrated in Wyatt's *Mosaic of the Middle Ages*.

Instead of there being an East window the chancel is closed behind the altar with a painted and gilded reredos, the panels and ceiling of which were originally painted by William Dyce (1806-64) between 1853 and 1859.[81] The painted colouring of the chancel and its ceiling are out of character with Butterfield's work, this being more in the tradition and colours of early medieval decorative painting. This becomes all the more evident when one visits another Butterfield church to be considered later in this study, All Saints, Babbacombe.

Conclusion

The purpose of this chapter has been to establish, from remarks in different writings, the substance of Ruskin's theory of architectural colour, to try and distil the essence of his ideas, and then to see how others applied these ideas. There seem to be two initial factors which must be borne in mind when approaching Ruskin's ideas on colour: the first is that, as an acute and analytical observer of buildings, Ruskin is aware that there is nothing finite about colour. He understands that a building, as an optical phenomenon, is infinitely and continually variable. No building, unless it is lit artificially, can look the same from one minute to the next since it is responding to a

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[80] The term 'Cosmati' refers generally to a kind of inlay marble and mosaic work found in Southern Italy and Sicily which was the specialisation of the family 'Cosmati' in the Middle Ages.
[81] THOMPSON: 'All Saints Church', pp. 78-80

variety of optical effects; the kind of light which illuminates it, the angles from which it is illuminated, the amount and colour of light it reflects and the part which shadows play in its perception. All these factors have an effect on colour and awareness of this made Ruskin reluctant to develop any definitive principles in regard to its use. The fact that he was concerned primarily with the perception of architecture does also raise a question as to how far he can be regarded as providing principles for design. The second factor to be taken into account is that unlike Pugin and Jones, Ruskin had no direct responsibility for the design of buildings which demonstrate his ideas. He therefore enjoyed the luxury of being able to tell others what they should be doing with colour without being forced to commit himself in built examples. The result of this is that there is no such thing as Ruskinian architecture. As Brooks has remarked:

> '...any instance of Ruskinism is always the creation of at least two men, Ruskinism never results simply from the impact of a great thinker on his passive disciples.'[82]

Ruskin's influence on the design of the four buildings which have been used as examples in this chapter is well documented, and they therefore make reliable guides to the way his ideas were interpreted. His most direct influence was in the design of the Oxford University Museum which came by virtue of his friendship with the Professor of Medicine, Henry Acland, and through the appeal which his ideas had for Woodward the architect. In the case of Ettington Park there is less direct influence but we find that both the antiquarian owner, Shirley, and his architect Prichard, followed Ruskin's ideas and watched the development of the Oxford University Museum with enthusiasm.

Godwin's Northampton Town Hall was somewhat later (1862) but by his own admission his competition design was heavily influenced by *The Stones of Venice*, with some of the details clearly owing their origin to Ruskin's account of San Donato, Venice. These three buildings have one important thing in common and that is that they

are essentially stone buildings. Since Ruskin's ideas concerning architectural colour are linked so closely with the use of stone as a building material they make appropriate examples and it seems reasonable, therefore, to use them for making certain judgements about Ruskinism.

The first concerns the application of Ruskin's ideas to building interiors. For most domestic interiors in England stone is regarded as too hard and cold - and usually too dark - to be acceptable as a wall covering, and in any case the climate tends to discourage its use. Even in a large country house so thoroughly Ruskinian as Ettington Park the interiors avoided the use of natural stone or mosaic for decorative effect. Similarly, there are few stone interiors in public buildings with the exception, perhaps, of certain large spaces such as halls and vestibules which provide a suitable opportunity. The Oxford University Museum covered court did, however, provide an excellent testbed for an expression of Ruskin's ideas on the use of colour and, as we have seen, they were to a large extent successful. But there was much more to the covered court than just the wall arcades, there was also a structure and roof to be considered, and being iron it had to be painted, otherwise it would go rusty. Faced with a request from Acland to come up with ideas for the decoration of the iron frame, Ruskin had to decline, admitting that he had no ready answer to give. Suddenly, the limitations of Ruskin's theories concerning architectural colour became apparent. An architect could turn to them for guidance so long as the building was of traditional masonry construction, but once a modern method of construction was employed which did not involve the use of traditional materials, architectural colouring had to follow a different system. As Owen Jones had already shown in his colour scheme for the interior of the Crystal Palace, his 'General Principles' for the employment of ornament did not suffer this kind of limitation.

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[82] BROOKS: p.321

The second point which arises from these buildings is that they were all constructed at a time when brick was becoming cheaper, owing to the lifting of tax, and was in more plentiful supply. New techniques of brick-making greatly increased the rate at which bricks were being produced and the brickworks were able to distribute their products more easily owing to the expansion of the railway system. At a time when there was a boom in construction brick became the most widely used building material, while stone was increasingly used more for dressings and ornamental features. Stone buildings such as Oxford University Museum, Ettington Park and Northampton Town Hall may therefore have been good examples of Ruskinism but they might have had more impact had brick not started to become the preferred material for many projects.

All Saints, Margaret Street, was to be a much more influential building for the next generation of architects than the three other buildings which have been discussed above. The question is, though, how much does it really pass on Ruskin's ideas concerning the use of colour? There is plenty of evidence to suggest that Ruskin's theories as described first in *The Seven Lamps of Architecture* and later in *The Stones of Venice* played an important part in determining certain early design decisions taken by Butterfield and Beresford-Hope - but these were mainly for the exterior. The idea, for instance, of creating patterns in zig-zag and chequer patterns externally may have been introduced by Ruskin in relation to marbles and other naturally coloured stones but it was Butterfield who transferred that idea to brickwork. Similarly, the idea of geometrical colour-mosaic was a Ruskinian device for producing what he termed 'conventional ornament' but, in the hands of Butterfield, this was executed in coloured tiling, rather than in marble or glass-mosaic. All Saints, Margaret Street, may therefore owe an early debt to Ruskin but ultimately the decorative use of colour seems to be far more a product of Butterfield's creativity than it is of Ruskin's theories and it must be

concluded that if we are to look for the sources of mid-Victorian polychrome architecture, it is Butterfield, as the interpreter of Ruskin, rather than Ruskin himself, whose influence turns out the greater for architectural practice.

As we have seen, Ruskin, in spite of his reluctance, does in fact define a number of principles for architectural colour and this suggests there might be value in making comparisons between his and Jones's principles. Any such comparison is, however, fraught with difficulty. For Ruskin, essentially an observer of buildings, colour was a transient thing, constantly changing as the quality of light changed. By contrast, Jones, a designer, might recognise that the quality of light was always changing, but for practical purposes it was necessary that colours should be selected in terms of light conditions which were static. It is this fundamental difference in their ways of seeing architectural colour which makes a comparison between the two so difficult.

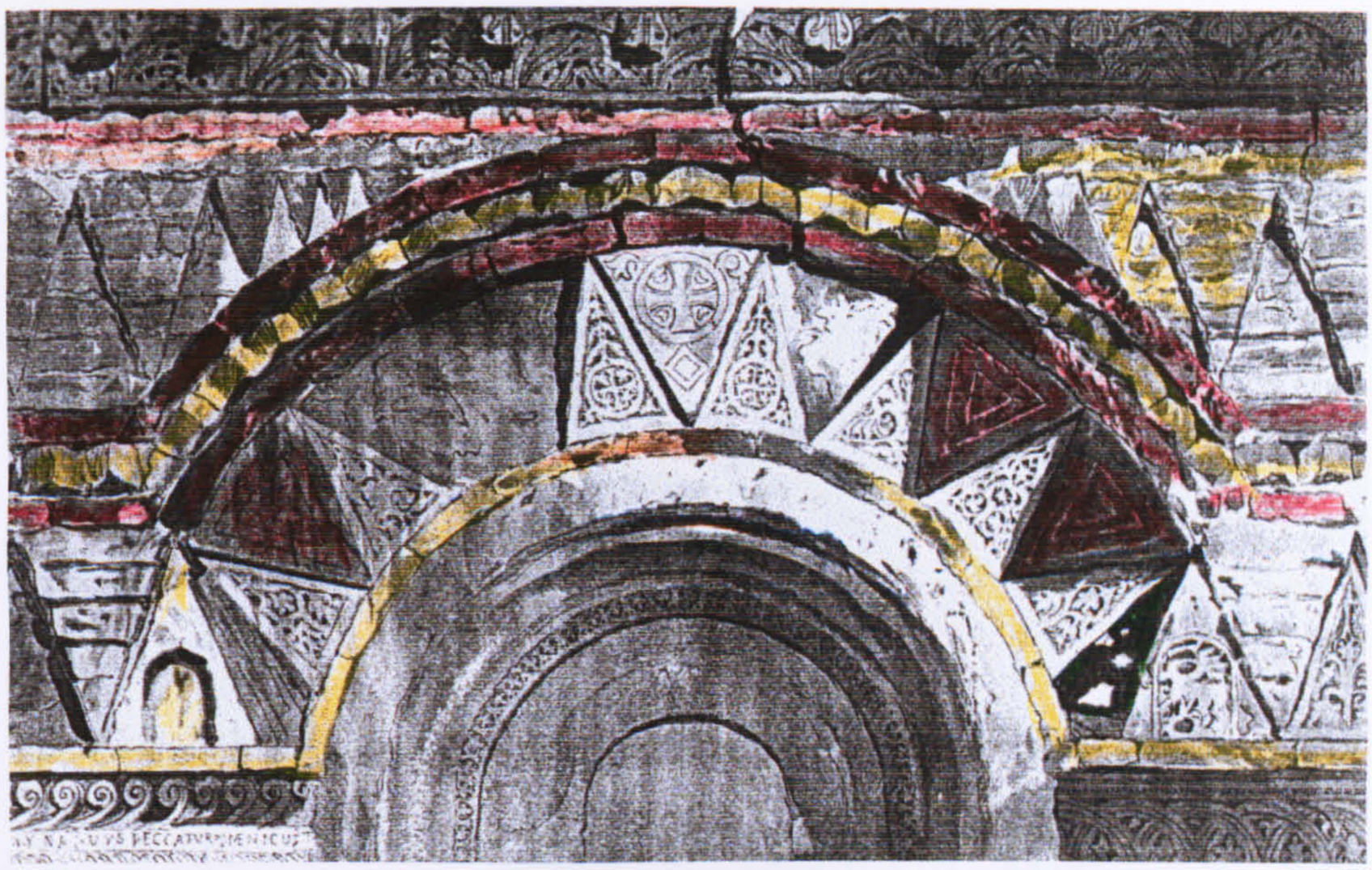

Fig.V.1 Ruskin drawing of inlaid stone triangles at the church of San Donato, Murano (near Venice)

(The Stones of Venice)

Fig.V.2 Oxford University Museum: wall arcade to central court

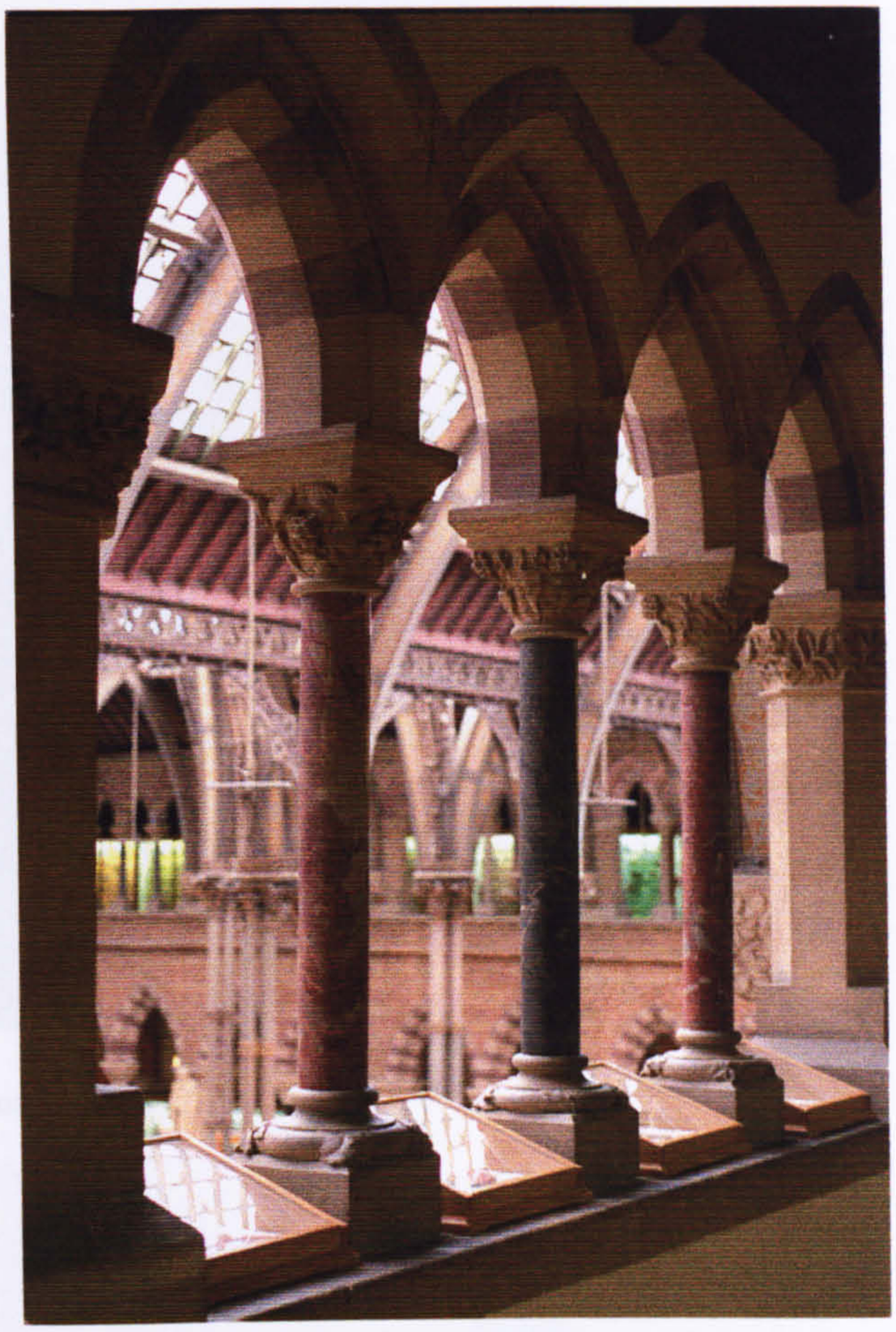

Fig. V.3 Oxford University Museum: bay of first floor arcade

Fig. V.4 Oxford University Museum: serpentine shaft in first floor arcade

Fig. V.5 Ettington Park, Warwickshire: view of south side

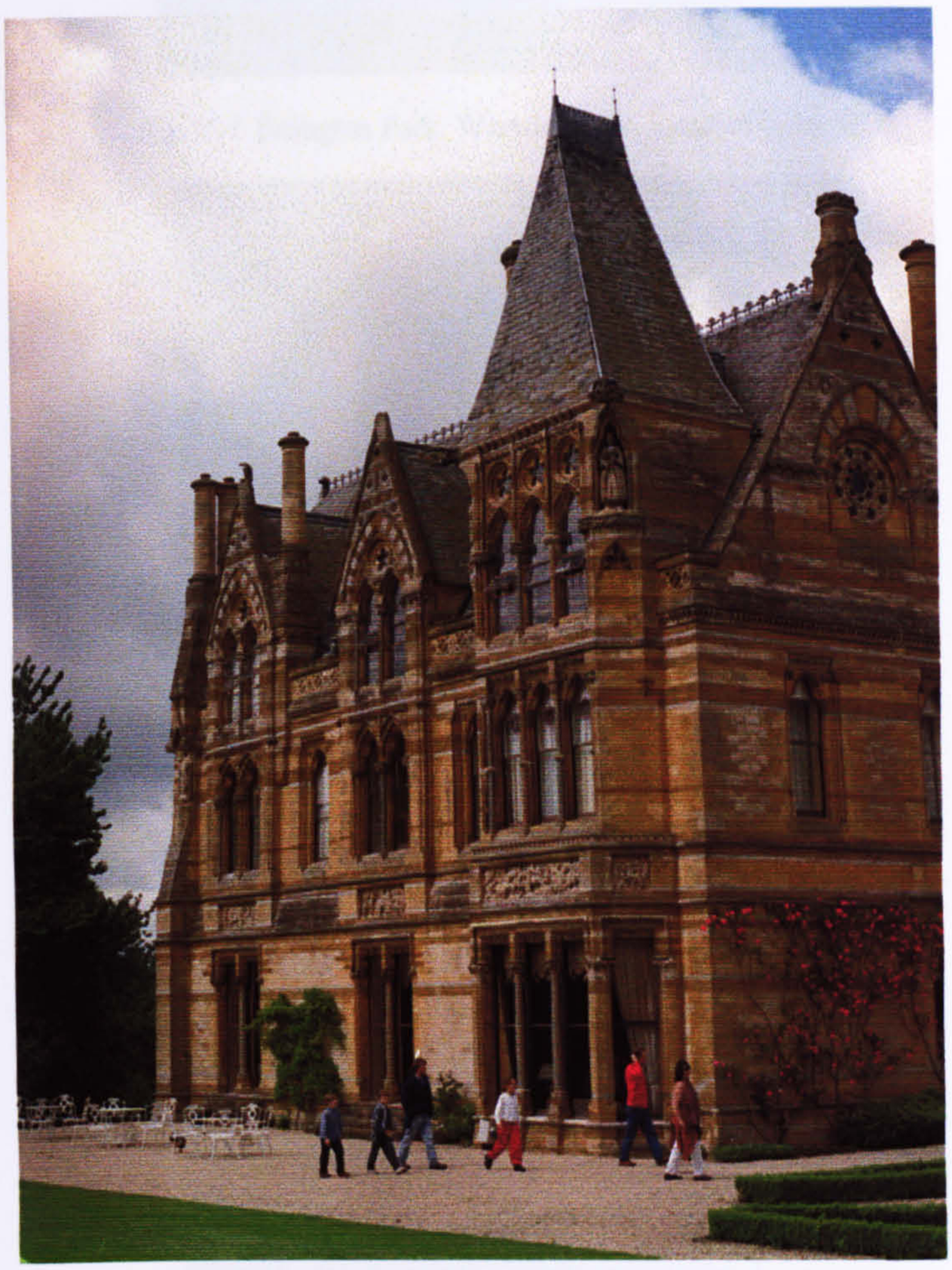

Fig.V.6 Ettington Park, Warwickshire: view of east side

Fig. V.7 Ettington Park, Warwickshire: detail of stone coursing

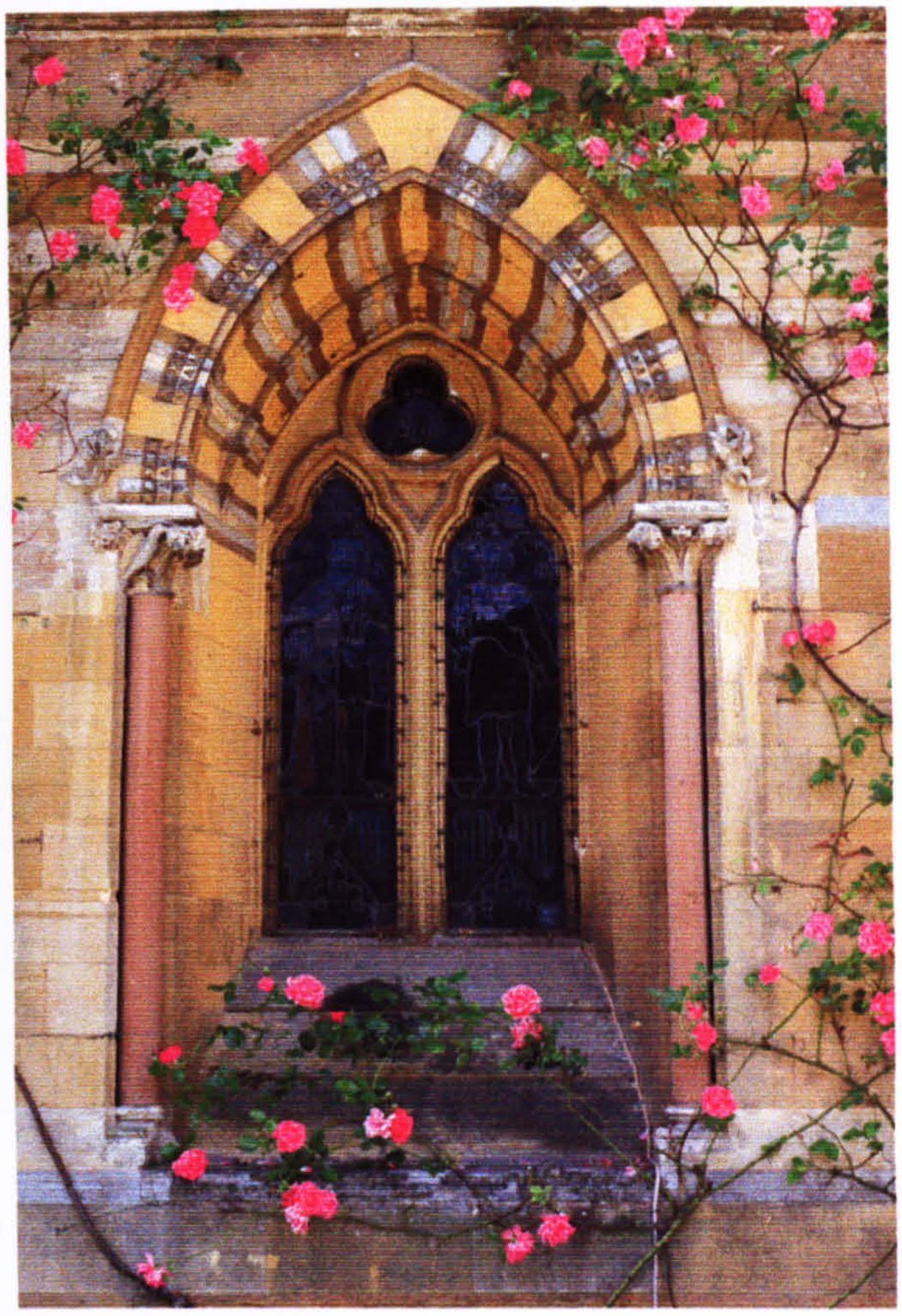

Fig. V.8 Ettington Park, Warwickshire: window arch with variegated voussoirs

Fig.V.9 Balliol Chapel, Oxford: view from the quadrangle

Fig.V.10 Northampton Town Hall: E.Godwin's street façade

Fig. V.11 Northampton Town Hall: detail of stone vaulting in entrance arcade

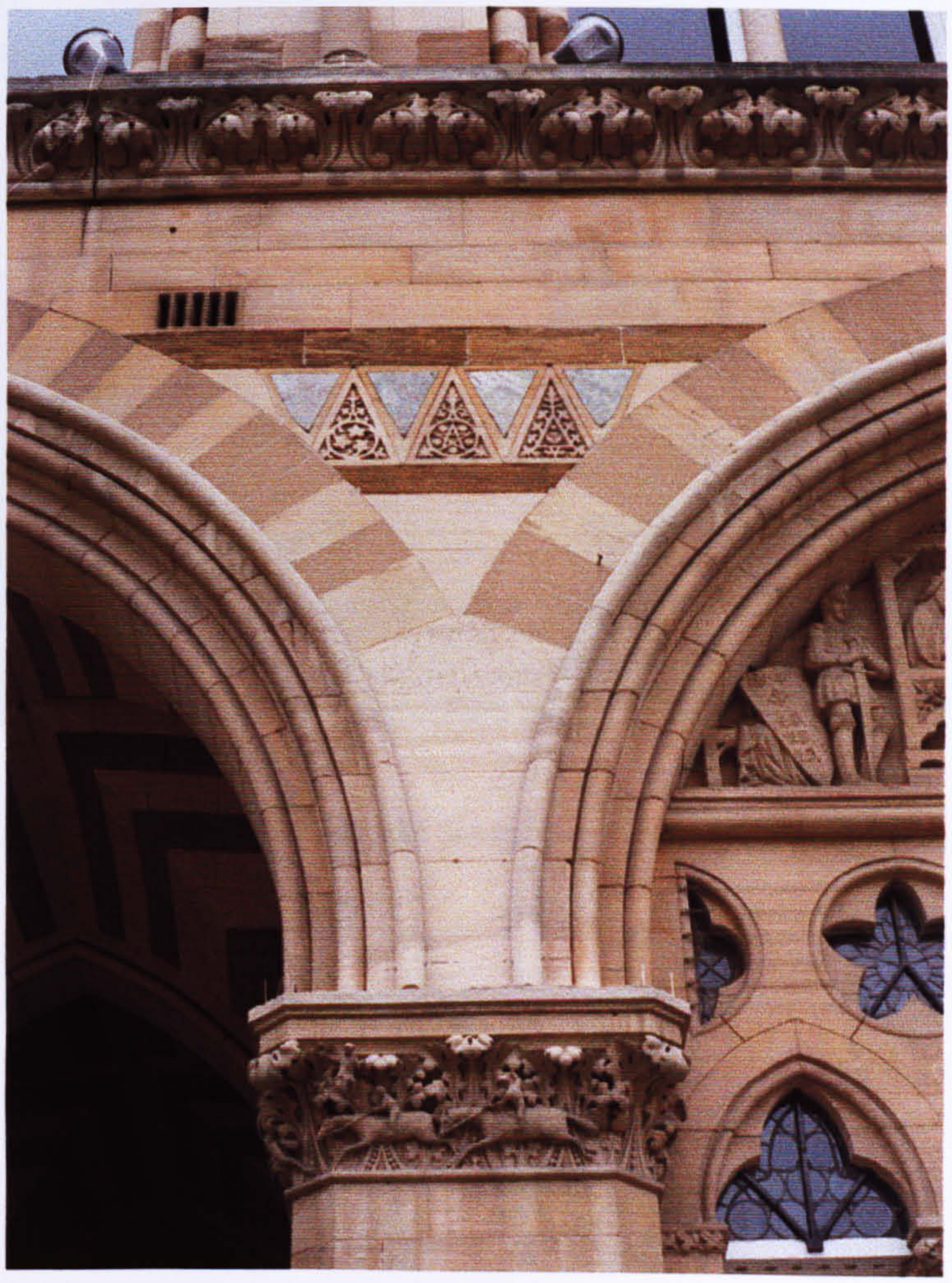

Fig. V.12 Northampton Town Hall: spandrel decoration

Fig.V.13 All Saints Church, Margaret Street, London: general view of complex

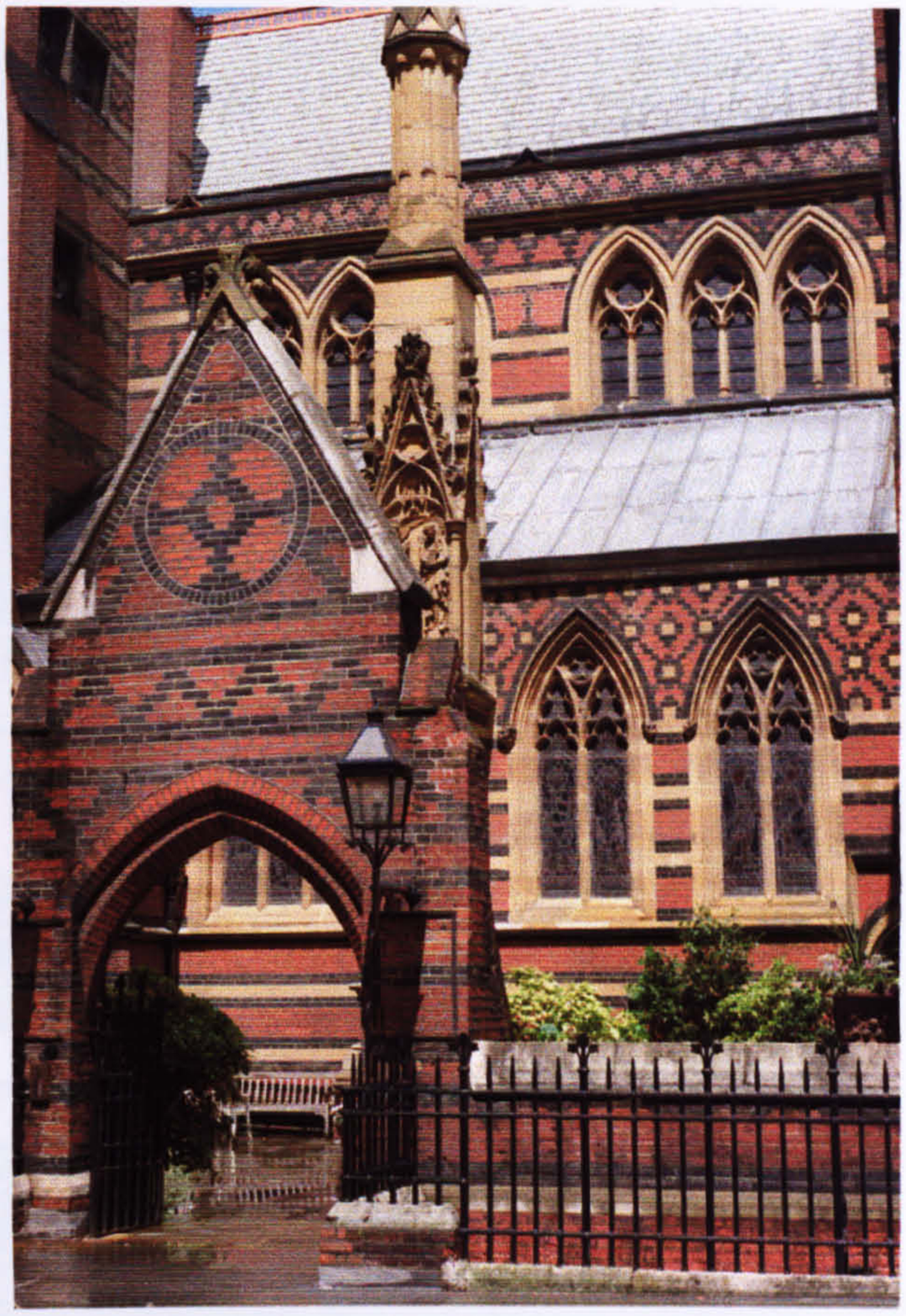

Fig. V.14 All Saints Church, Margaret Street, London: view from south (1)

Fig. V.15 All Saints Church, Margaret Street, London: view from south (2)

Fig. V.16 All Saints Church, Margaret Street, London: general view of interior towards sanctuary

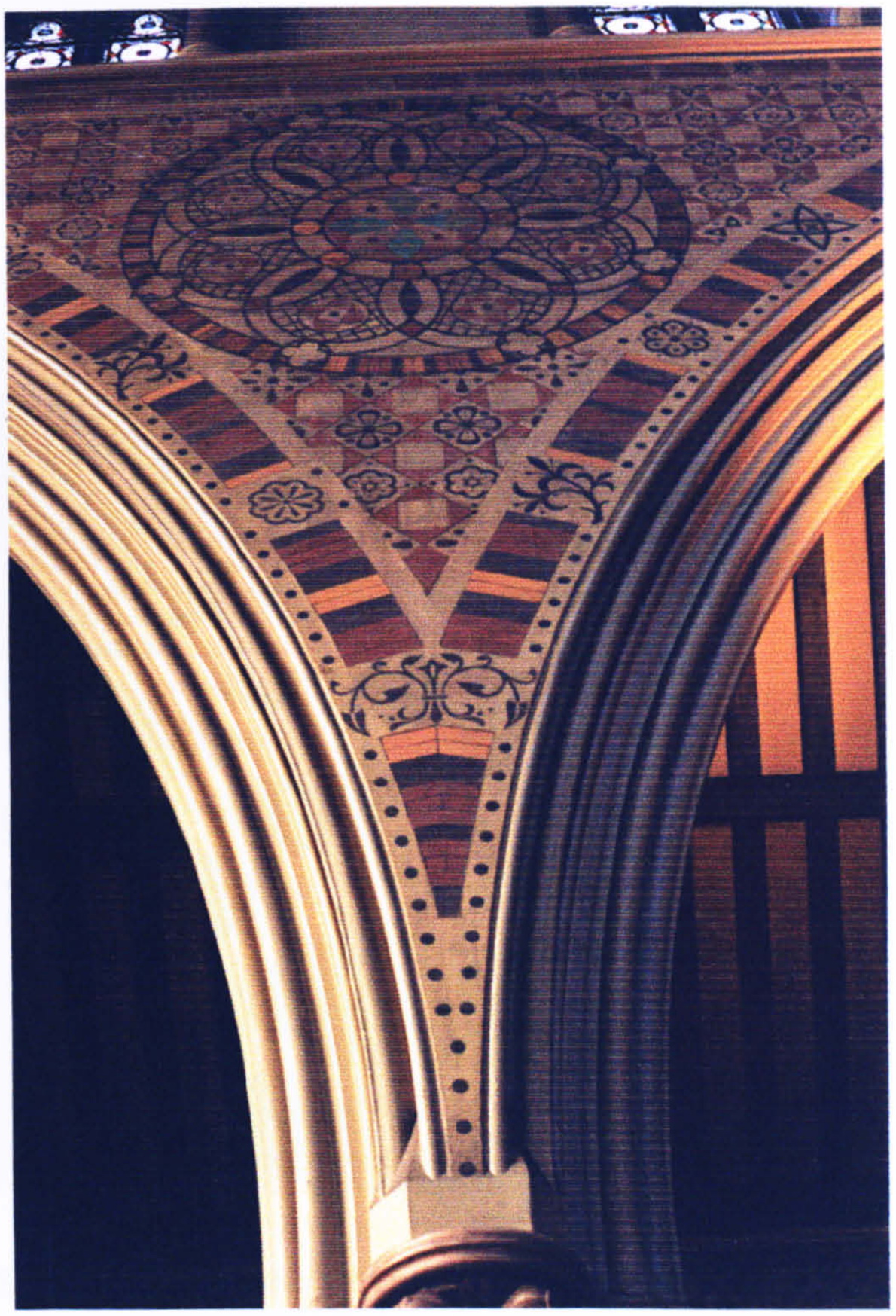

Fig. V.17 All Saints Church, Margaret Street, London: Butterfield's use of a circular motif in the nave arcade spandrels

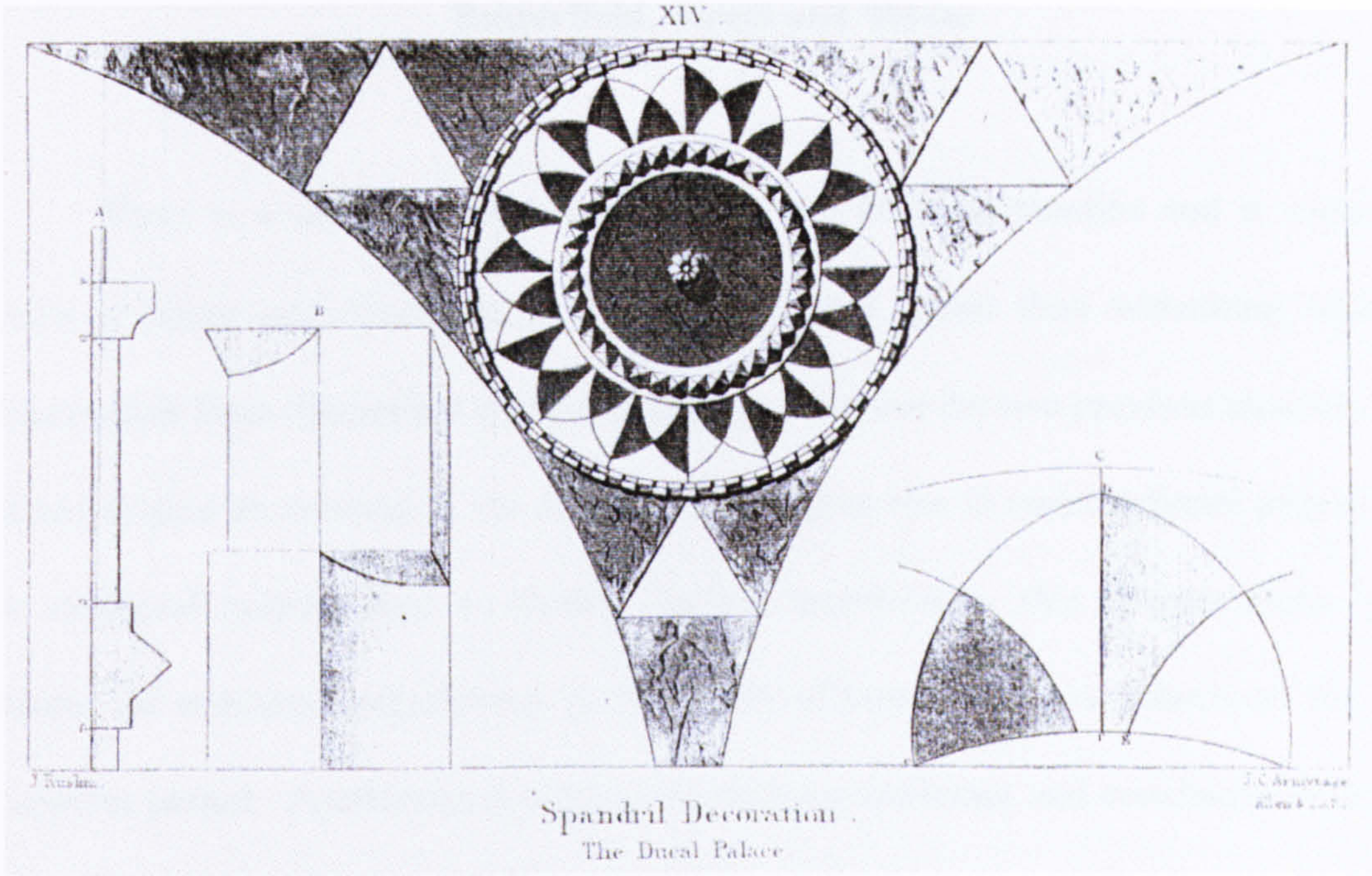

Fig.V.18 Ruskin drawing showing the use of circular motifs in the spandrel of an arch

(The Stones of Venice)

Fig. V.19 All Saints Church, Margaret Street, London: treatment of the flooring in the aisles

CHAPTER VI

The High Victorian period: the works of Butterfield, Street and White

There is a sense in which polychromy is a building practice and is something which is better understood by examining buildings rather than something which is discoverable from theoretical pronouncements. Whereas the two previous chapters have set out to give an account of the theories which gave rise to constructional polychromy (or structural polychromy) in Gothic Revival architecture, this chapter looks at the practice of structural polychromy in the hands of three leading architects of the High Victorian period. Architectural colour was such an important and consistent element in the work of Butterfield's long career that his selection as one of the three architects is inevitable but some explanation is needed for the choice of the other two. Apart from the fact that both Street and White produced some accomplished and interesting buildings, they were active members of the Ecclesiological Society and as such they were often able to give expression to their ideas in the pages of *The Ecclesiologist*. The principal reason for their choice, however, is that they, like Butterfield, were devoted to developing a modern form of the Gothic Revival and architectural colour was an important ingredient of the developed style. This chapter is therefore concerned with discovering the ways in which these practitioners developed the use of structural polychromy as an element of modern Gothic architecture and to see how far there were any underlying principles to this work.

William Butterfield (1814-1900)

In its obituary of Butterfield *The Building News* revealed that on one occasion the architect had not been prepared to lend them drawings of one of his buildings for publication, excusing himself on the grounds that,

> 'my most frequent treatment of architecture is largely dependent on and connected with coloured material. I should be sorry to see such works published unless that treatment could be done justice to.'[1]

If colour played such an important part in Butterfield's means of architectural expression it is understandable he should have been reluctant to allow drawings to be published in black and white for, produced in that form, they could never convey the effect of his architectural designs. After all, verbal descriptions of colour in architecture used the support of coloured illustrations - for colour is such a peculiarly difficult subject to convey entirely by words. Butterfield's use of colour as a means of architectural expression and the possible reasons for his preoccupation are the first concerns of this chapter.

If we are to look for any system which underlies Butterfield's use of colour our only evidence is in the buildings themselves; if Butterfield had a theory of colour, it is not recorded. His way of life was that of a recluse and he never lectured or took part in any public discussions if he could avoid doing so. The obituary in *The Building News* quoted a letter which they had received from Butterfield twenty-three years before in which he said,

> 'I have always had to regret when I have at all given way in the direction of publicity. It in no way suits my taste to do so.'[2]

As the previous chapter has explained there were special circumstances which influenced Butterfield in his use of colour at All Saints, Margaret Street. One factor, for

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[1] *Building News, The*: (1900): Vol. LXXVII, (2 March), p.292

instance was the profound change of attitude on the part of *The Ecclesiologist* towards the use of brick rather than stone, for church buildings. This change was heralded in 1846 by an article entitled 'On Masonry' in which it was said,

> 'We do not object even to brick in a bad stone district and where the funds are small. Only let the brick be honestly and intelligently used.'[3]

The appearance of Ruskin's *Seven Lamps of Architecture* in 1849 seems likely to have had some influence on the decorative use of zig-zags, chequers and banding in the external brickwork. Other publications such as Ruskin's *The Stones of Venice*, Wyatt's *Specimens of the Geometrical Mosaic of the Middle Ages* and Gally Knight's *Ecclesiastical Architecture of Italy* are all likely to have been familiar to Butterfield. Such publications had the further effect of encouraging him to travel to France, Northern Italy and Germany to study the buildings depicted for himself. As to the techniques of using bricks of different colours for decorative effect, it was not as if these were Butterfield's invention. There was plenty of precedent in Tudor brickwork for the use of diaper work and Wild had, after all, already used constructional polychromy ten years before at Christ Church Streatham. But beyond these external influences Butterfield's use of colour seems to have been driven by more personal factors. Like Owen Jones, who always claimed that he designed in terms of colour, Butterfield seems to have had a similar way of thought - the difference being that while Jones might conceive a design in terms of colours which would be applied to materials, Butterfield would have conceived it primarily in terms of natural materials and the colours which were inherent in them.

Thompson has commented on two further factors which are likely to have guided Butterfield in his use of colour. The first is a purely practical matter and concerns the use of polychromy in brick; the second draws attention to the religious

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[2] *Building News, The*: (1900): Vol. LXXVII, (2 March), p.292

inferences of bright colour in churches. It appears that in making a choice of coloured materials Butterfield would deliberately allow for them to weather so that colour combinations, which might at first appear strident, would appear much more satisfactory once they had been exposed to the elements and had time to mellow. This idea seems, however, to have worked more satisfactorily for buildings in the countryside than those in the towns. The deposit of grime from smoke-laden air during the nineteenth and twentieth centuries has not been so kind to buildings located in the middle of towns and the colour not allowed to glow in the way intended. In the case of Keble College, Oxford, for instance, it had

> 'chill[ed] the warm blazonry, hardening its tones to suit the austere High Church reputation of the college.'[4]

Thompson also points to the religious implications of Butterfield's use of bright polychromy on Tractarian churches in that it could be regarded as an open challenge to the drabness of puritanical austerity which prevailed in the Evangelical church at that time;

> 'Colour, in short, was a deliberate assault, not upon the senses, but on the puritan spirit which starved them. It was an assertion of catholicism in a Protestant England, of luxury in the age of Gradgrind, the sensuous pleasures at a time of rigorous suppression.'[5]

It would not be difficult to find enough material for an entire thesis on Butterfield's use of colour in buildings, such was his output over a long and prolific career. Indeed, a whole chapter has been devoted to the subject in Thompson's *William Butterfield.* The purpose of this study is more limited, however, and is concerned with examining a small representative group of his buildings, which make extensive use of colour in their design, in order to discover whether there are certain consistencies in the way it was handled, and which indicate whether Butterfield was making use of a number

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[3] *Ecclesiologist, The* (1846): Vol. VI, (August), pp.41-45
[4] THOMPSON: *William Butterfield* p.229

of unwritten principles in his work. The small group of buildings which have been selected for this purpose are All Saints, Margaret Street (1849-1859); St Augustine's Penarth (1865-66); All Saints Babbacombe (1865-67), and Keble College Chapel, Oxford (1873-76): thus they cover a period of twenty-five years of Butterfield's working life.

It has already been noted in the previous chapter that at All Saints, Margaret Street, surface ornament is used in a way which tells us something about the structural meaning of the wall (Fig. V.14 & 15). There the surface ornament is most strongly patterned in the spandrels between the external aisle arches with the implication that this is principally an infill and the structural loads not very great. At St Augustine's (Fig. VI.1) we see a diaper pattern of black bricks used against a background of red and cream brick in the walling above the arches of the nave arcade with the same apparent intention. Keble College Chapel (Fig. VI.2) employs a similar device externally above the nave and transept windows, a vigorous pattern being produced by means of a chequer of Bath stone slabs mixed with red and black bricks. The same idea materialises in very different guise in the walling above the nave arcade for All Saints, Babbacombe (Fig. VI.3). Here, instead of zig-zags, formed in contrasting coloured brick diaper, a web of thin stone diagonals fills the spandrels and space between arch and wall plate. Slightly recessed behind the web, the main walling is formed of horizontal bands of red and dark grey sandstone, interspersed with blocks of white stone in which are inlaid patterns formed in mastic. Although the stone diagonals are only slightly raised above the generally flat surface of the wall there is an illusion of depth, light and shade which makes the stone trellis appear almost like a screen. This is no doubt aided by the combination of different coloured stones, the yellowish diagonals advancing, and the grey blue bands retiring, against the predominant red sandstone. The

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[5] THOMPSON: *William Butterfield* p.229

system of reducing the amount of decoration as the wall's load increases with the introduction of horizontal bands in the masonry between windows, which was used by Butterfield at All Saints, was developed further at Keble College Chapel. Below the nave windows the red brick walling together with the buttresses is relieved by a band of zig-zag brickwork immediately below the window sills and by stone string courses at intervals but these are subdued by comparison to the high level ornament. It has been noted by Thompson[6] that only in the largest of Butterfield's buildings does this distinction between the lightly chequered upper 'wall veil' and the strongly banded load-bearing base walls appear. In wall arcades like the two examples described above the columns supporting the arches are not banded.

At All Saints, Margaret Street, blue black diaper in the form of a diagonal grid was employed as a way of giving surface relief to the gable walls of the vicarage and school in a manner which harmonized with the roof pitch (Fig. V.13). At Keble College Chapel this idea was taken a stage further on the gables to the nave and transepts. These are treated with grids of stone diagonals, used in combination with red brick to create an effect of trellis, rather in the manner of the wall arcade at All Saints, Babbacombe. At All Saints itself the walling above the east window of the sanctuary is handled in a similar way (Fig. VI.4).

At All Saints, Margaret Street, it is noticeable that the surface decoration of the nave arcades bears no apparent relationship to the decoration of the chancel arch. The simple explanation for this might appear to lie in the fact that the chancel arch was not completed until three years after the nave arcades and by that time Butterfield's use of colour and pattern had changed. It is therefore interesting to see how Butterfield determines the difficult junction between the side walls of the nave and the chancel arch in the churches where the wall decoration had all been completed within the same time

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[6] THOMPSON: *William Butterfield* p.163

span and where it is integral with the structure. The first reaction on looking at St Augustine's, Penarth, (Fig. VI.1) is that there has been no attempt to relate the wall decoration of the cross wall over the chancel arch with the decoration of the nave side walls. Indeed, Thompson points out[7] that this was not an arbitrary decision by Butterfield, but was deliberate since he wished to emphasise the role of the chancel cross wall as a subordinate division, with the intention that the main lines of the nave should carry through into the chancel. What becomes apparent is that the surface decoration is doing two jobs. First of all, it gives unity to a wall plane, but its second and principal function is to emphasise the shape of the interruptions in the plane - the arches and the quatrefoil tablets. By perforating the continuity of the surface, Butterfield's method contrasts with the more usual High Victorian way of providing emphasis for the shape of an arch by making the voussoirs parti-coloured. Something similar happens at All Saints, Babbacombe. There the stone trellis over the nave side walls continues into the chancel but is interrupted by the chancel arch cutting across it. Within the chancel the stone trellis provides emphasis to large arches which open into extensions of the aisles on either side. Polychromy is therefore used to emphasize the contrast between the various architectural elements such as the wall planes and wall openings.

The previous chapter has already shown that at All Saints, Margaret Street, bricks of different colours, red and blue black, were contrasted with each other or with yellow Bath stone to create an effect of modelling on surfaces where there is in fact very little relief. Colour is therefore used to create an illusion of surfaces advancing or retiring. It is also used to provide emphasis on the planes of the building, for instance by combining bands of contrasting colour to lay stress on the horizontal plane. A further use which has been identified is in the decorative brickwork in spandrels and over

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[7] THOMPSON: *William Butterfield* p.165

arches with the dual purpose of emphasising their form and identifying the infill nature of the material. These observations, made in relation to All Saints, very largely apply as well to the other principally brick building, Keble College Chapel. But how do these ideas apply when Butterfield is using stone rather than brick as the principal construction material?

Some of Butterfield's original drawings for All Saints, Babbacombe, survive and in these (Fig. VI.10) we can see that his original intention was to use a local red sandstone for the bulk of the masonry in combination with dressings of yellow Bath stone. Bath stone was to be used in window surrounds, copings and ornamental features such as the carved blocks of the east and gable wall. The precise reason for the change of materials in the external building is unknown, but it appears that Butterfield's builder was unable to obtain the proposed red sandstone and a grey stone with pink flecks was used instead. Even in the original scheme, however, it is noticeable that the gable stonework over the east window is composed of blocks of stone which are carved so as to produce a strongly textured effect. The same feature may be observed externally over the sanctuary windows and over the bell chamber arches in the tower. This feature corresponds directly to the brick and stone polychrome decoration over the arches at Keble College Chapel (Fig. VI.2). The decorative idea remains the same but where there are reasons for brick to be used instead of stone, constructional polychrome has been used as an alternative to modelling.

Whatever the reason for Butterfield to abandon his use of red sandstone for the exterior of All Saints, Babbacombe, it seems unlikely that it was a matter of great principle for him that there should be strong links between the interior and exterior ornamental treatment of a building. This idea is reinforced by the extraordinary contrast in appearance between the outside and inside of St Augustine's, Penarth. The building is situated on a rocky headland which overlooks Cardiff Harbour and was built to take

the place of a church which had stood on the same site for six hundred years. The tower of this original building was distinctive for having had a medieval saddle back roof which could be easily identified at sea, a feature which made it a landmark for Bristol Channel pilots and other seafarers.[8] Butterfield's early design for a square battlemented tower met with strong local opposition and in deference to this (and no doubt the views of his patron, the Countess of Plymouth), he redesigned the tower as a replica of the old one, albeit somewhat taller. There was a precedent, therefore, for the use of a local grey limestone in the tower and this may well have led to the same material being used for the rest of the exterior. Internally the same material would have looked depressing and Butterfield chose to look for other materials. The result of this was that Butterfield opted for a design which made use of local bricks and warm coloured stone for the interior. It appears, therefore, that while Butterfield's manner of use of coloured ornament was to influence the work of his peers such as George Edmund Street and William White, the practice of connecting interior and exterior by means of constructional polychromy did not originate from him.

Constructional polychromatic interiors represent only a small proportion of Butterfield's ecclesiastical work. In two-thirds of his churches, colour is confined to the floor, the font, and the sanctuary wall and window,[9] these providing highlights of colour to give enrichment to otherwise plain interiors largely finished in white plaster and brown wood. In interiors such as these the flooring and its colour provided a means of ordering the liturgy of a church interior, just as it had at St Peter's, Marlow, for Pugin. In the majority of his churches Butterfield used encaustic tiles as the flooring material, plain red, buff and black tiles being used for the nave and aisles, but patterned tiles in brighter colours being introduced into the floor of the chancel and sanctuary. At All

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[8] TILNEY, CHRYSTAL (1999):*A History of the Parish of Penarth with Lavernock*, (Penarth, 3rd ed.), p.46

Saints, Babbacombe, Butterfield was able to take advantage of coloured Devon marbles locally available and use them for the floor of the chancel and sanctuary (Fig. VI.5). The local quarries at Petitor provided most of the marble but this was combined with black Belgian and white Sicilian marbles. Here in this richly coloured geometric marquetry floor we find Butterfield putting Ruskin's principles of colour, as derived from nature, into practice.

Church furniture such as the pulpit, font and reredos could also provide an opportunity for Butterfield to introduce colour into an interior in which the decorations were otherwise very simple. Although St Augustine's, Penarth, has an elaborate constructional polychrome interior it also provides a good example of Butterfield's ability to exploit the natural colours of marble for an item of church furniture, in this case the reredos (Fig. VI.1). The design itself revolves around the letters 'IHS' set within a rhomboid on the diagonal against a rectangular frame, a device which has a certain dynamic about it, very much in keeping with the zig-zag patterning of the church's brick interior. The reredos is formed by marquetry of marbles in geometrical shapes, the colours being light blue-green, brown-red, yellow, black and white. The striking angularity of the design and the sharpness of colour contrast seems to be at variance with Ruskin's principle that in ornament colours should be graduated.

Turning to painted polychromy, only All Saints, Babbacombe, of the four examples under discussion, preserves the original painted polychrome decoration and thus it is difficult to draw any firm conclusions as to Butterfield's motivation for using painted ornament and whether there were any underlying principles which governed its use. If we consider the nave and aisles first we find that the underside of the roof between the trusses is covered with stylised flower patterns in bright red and specks of green against a light buff ground (Fig. VI.6). In the aisles the ceiling is painted in

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[9] THOMPSON: *William Butterfield*, p.232

geometrical ornament of blue, red and yellow-green against a cream background, flanked with borders of geometrical ornament in red, blue, gold and black (Fig. VI.7).

What was the reason then for Butterfield to use this painted decoration in a church which was already richly ornamented with constructional polychromy? It certainly does not follow Pugin's principle of ornamenting 'the essential construction', nor does it contain symbolism and therefore have meaning. It has already been observed that Butterfield used constructional polychromy as a way of distinguishing between the structural and non-structural parts of a wall, the non-structural parts being those which received the most decoration. Butterfield may therefore have been applying the same system to the painted decoration by ornamenting the surfaces which occupied the space between structural roof members.

But how, it might be asked, can this argument prevail when the structural timber members of the ceiling over the chancel and sanctuary are already fully painted? (Fig. VI.8). There the main members are painted in bars of blue, red and gold, while the intermediate ribs are painted blue, red and gold in a smaller pattern. Between them the surfaces are covered with red centred gold stars ringed by blue against a gold ground. As a longitudinal section through the building indicates, the sanctuary ceiling is in fact a canopy suspended beneath the structural roof timbers. Clearly Butterfield wished to increase the amount of decoration in the sanctuary and chancel for liturgical reasons but, if the theory concerning his use of painted decoration for the nave and aisle ceilings is correct, it would seem that Butterfield could permit himself to use elaborate painted decoration on the entire chancel ceiling and still maintain his principle. It is worth noting that at Keble College Chapel the ribs of the vault are decorated with bands of blue, gold and red and the vault itself displays bands of blue, red and gold polychrome ornament (Fig. VI.9). Since the vault is a canopy beneath the main roof structure it is

possible to argue the same justification for Butterfield's use of applied colour as has been advanced for All Saints, Babbacombe.

What this discussion indicates is that Butterfield developed a method of using polychrome decoration which was distinctly his own, and only partially indebted to Ruskin or other sources.

George Edmund Street (1824-1881)

When we turn to study the work of Street we are faced with a very different proposition to Butterfield because many of his thoughts on the subject of architectural colour were set down in articles which appeared in *The Ecclesiologist* and in the building press.

From an early stage in his career as an architect G.E. Street became involved in the work of the Ecclesiological Society and this led him to become a regular correspondent to *The Ecclesiologist*, his first contribution appearing in 1847. As a result of his acquaintanceship with the Secretary of the Society, Benjamin Webb, he received introductions to William Butler, a prominent Tractarian who had become vicar of Wantage, Berkshire, in 1846 and also to Samuel Wilberforce, Bishop of Oxford.[10] These connections opened up the prospect of architectural church work in that area and in 1850 he settled in Wantage. Very quickly he found himself involved in a great deal of church restoration work and school building in the vicinity. Butterfield's work was to play an important part in the development of Street's own principles in regard to the use of colour in building design; in particular All Saints, Margaret Street, revealed the opportunities which brick offered for bringing about developments in contemporary design. Street acknowledged this debt to Butterfield in a paper which he read to the

[10] HITCHCOCK, H. R. (1960): 'G.E. Street in the 1850's', *Journal of the Society of Architectural Historians*, Vol. XIX/4, (December) p.146

Oxford Architectural Society in 1852 and which was later published in *The Ecclesiologist*[11] under the title 'The True Principles of Architecture and the Possibility of Development':

> 'My friend Mr Butterfield has shown in Margaret Street what can be done in bricks, and it is no disparagement to say of his noble work, that it must be looked at as the first only of a long series in which more and more improvement may be looked for. Indeed the extent to which brick may be used, and the variety of colour of which it is susceptible point to it as our most available material.'[12]

One small but important early work of Street is the school at Inkpen, Berkshire (Fig. VI.11) which he designed in 1850. This is significant for its modest but very early use of constructional polychromy and it heralded some of the ideas on the use of colour which he was to set out in 'True Principles'. Two ideas may be seen at work at Inkpen. The first concerned his belief that contemporary Pointed architecture was placing altogether too much stress on the vertical elements in architecture, when in fact it was the horizontal elements which should be given more emphasis. Street contended that a feeling of repose in a building had throughout history been 'one of the elements of all grand design',[13] and 'indeed that no architecture can be good without repose.'[14] In his view it was the horizontal elements which played a large part in satisfying that need for repose and colour had often been instrumental in achieving that effect, as historical precedents could show. In Italy, for instance, the medieval architects had used variously coloured courses of stone or marble laid in horizontal bands, while even in British vernacular architecture, such as that to be found in Northamptonshire, such banded effects were to be found.[15] Where stones of various colours were available they were

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[11] STREET, G.E. (1852): 'The True Principles of Architecture and the Possibility of Development', *The Ecclesiologist*, Vol. XIII, pp.247-62, paper read before the Oxford Architectural Society on 18 February 1852 (referenced hereafter as STREET: 'True Principles')
[12] STREET: 'True Principles', p.261
[13] STREET: 'True Principles', p.253
[14] STREET: 'True Principles', p.253
[15] STREET: 'True Principles', p.255. See also PEVSNER: *Northamptonshire* which refers to STEANE, J. M. (1967-8): *Northants Past and Present*, Vol. IV/2 for information about local building stone. The village of Blisworth, Northants provides several good examples of this kind of banding (see Fig. VI.12)

often used in different coloured courses for ornamental effect. Street pointed out that we could learn from these examples and concluded that,

> 'all construction is necessarily horizontal, and that if you ornament construction by colour or by carving throughout the whole surface of a building, your ornament must necessarily be in horizontal, and not in vertical lines.'[16]

Street further advised that when using alternating bands of colour for ornamental effect it was as well to remember that,

> 'these two colours should never be exactly equal - one, generally the lighter colour, should predominate: without this we should have confusion.'[17]

The second main principle was an extension of this idea concerning the relationship between colour and horizontal emphasis;

> 'not only should horizontal lines be introduced because they are constructional, but <u>all</u> built decorating should be very clearly constructional also. Thus, e.g., any colour in the spandrels of arches should contain a decided circle filling up the space, or another arch springing from the haunches of the main arches, and its spandrels again filled in with circles. And this is necessary not so much because the strength requires it, as because these <u>are</u> the strong forms in such a position, and no form can look well unless it be such a one as would be good also, supposing it to be simply done for the sake of strength.
>
> Again, decoration by colour in arches should be kept as much as possible in distinct rims, the same as those natural to the construction;...And arches should be carefully defined and kept away and distinct in colour from the wall, their office being quite distinct from its office, and therefore not to be confounded with it in decoration.'[18]

At Inkpen we can see the first tentative steps towards these principles being put into practice. Horizontal bands of blue black brick have been introduced into the gables above the window arches, and in the walling below the window sills. The arches themselves have been picked out in blue black brick to contrast with the red walling and the tympanum is filled with bright red wall tiles which emphasise the form and construction of the arch. The use of tiles was to be another subject on which Street touched in 'True Principles',

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[16] STREET: 'True Principles', p.255
[17] STREET: 'True Principles', p.260
[18] STREET: 'True Principles', p.260-61

> 'Another material is tiles; in which up to the present time much less has been done than might have been anticipated. They might...be made most available, filled in in wall-veil decoration, and used in cornices, string courses and the like. The permanence of their colour is a great argument in their favour...'[19]

In his paper 'True Principles' Street emphasised the value of studying Continental examples,

> 'one of the most important opportunities for the discovery of the best mode of improving our style is the careful study of Continental examples.'[20]

Street was an inveterate traveller and thanks to the developing network of railways on the continent, he was able to make a series of rapid architectural sketching and note-making trips to France, Germany and Italy during the early 1850s, whilst still maintaining the workload of a growing practice. These tours led to Street writing a number of architectural travel articles for *The Ecclesiologist* and to publication in 1855 of his book *Brick and Marble in the Middle Ages*.[21] While nothing like as influential as Ruskin's *The Seven Lamps of Architecture* and *The Stones of Venice*, it was important in making Continental Gothic acceptable to The Ecclesiological Society. In other respects as well, *Brick and Marble* was to increase the enthusiasm for constructional polychromy and to widen its application. Published with the volume were a number of carefully executed wood engravings, supplemented by colour lithographs, which showed brick and stone construction in various combinations and showed them in a way which could be put to use – in other words, borrowed – by contemporary architects. This was in contrast to the sketches which had appeared in Ruskin's books,[22] which although graphic, needed interpretation before they could be reproduced in built form. Furthermore, *The Builder*, greatly extended the exposure of Street's work in that it

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[19] STREET: 'True Principles', p.261
[20] STREET: 'True Principles', p.250
[21] STREET, G.E. (1855): *Brick and Marble in the Middle Ages,* (London: John Murray) (referenced hereafter as STREET: *Brick and Marble*)
[22] STREET: *Brick and Marble,* Preface xv. Street here pays tribute to Ruskin for encouraging him to travel in Italy.

repeated many of his illustrations and quoted at length from his text in an article on 'Colour in the Construction of Buildings'.[23]

During his travels in Northern Italy, Street was much struck by the way mediaeval builders had introduced colour into their buildings by the use of brick and contrasting colours and through the use of marbles. He noticed, however, that marble was used in two quite different ways. There was the Venetian mode in which the structural brick walls were veneered with thin layers or coats of marble; and there was another mode, that practised at Bergamo, Cremona and Como in which the marble formed a part of the substance of the wall. These two modes had naturally led to two entirely different styles and modes of architecture.

> 'The Venetian mode was probably rather likely to be destructive of good architecture, because it was sure to end in an entire concealment of the real construction of the work; the other mode, on the contrary, proceeded on true principles, and took pleasure in defining most carefully every line in the construction of the work. It might almost be said that one mode was devised with a view to the concealment, and the other with a view to the explanation, of the real mode of construction'.[24]

Here we find then a significant departure from Ruskin's advocacy of Venetian architecture. As an architect, thoroughly versed and experienced in masonry, Street could discern underlying principles in the forms of construction which would not necessarily have been apparent to Ruskin. Street drew attention to the lessons which could be learned from the Veronese use of brick and stone in alternate bands[25] for decorative effect, and the fact that this same technique had been adopted by the architects of Northern Germany, but in their case translated into the alternations of red and black brick courses[26]. The widespread use of brick in Italian churches only served

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[23] *Builder, The* (1855): Vol. XIII, pp.377-8; 421-3; 427; 599-600
[24] STREET: *Brick and Marble*, pp.278-9
[25] STREET: *Brick and Marble*, pp.102-4. Street particularly draws attention to the two churches of San Zenone and S. Fermo Maggiore. An interior view of San Zenone is given by H. Gally Knight in *Ecclesiastical Architecture of Italy*, but Street points out that it fails to convey the grand effect of colour which is one of its great beauties.
[26] STREET: *Brick and Marble*, p.283

to confirm, in Street's opinion, how prejudiced the English had been against the material and showed how much could be done with the wide range of colours available. He lamented the regular uses of 'those detestable-looking dirty colour yellow bricks in which London so much rejoices' and asked why we could not use more red bricks in the manner of the Italians.[27]

Not long after he had made his trip to Northern Italy in 1853, but before publication of *Brick and Marble in the Middle Ages*, Street received his first really significant ecclesiastical commission, that of All Saints, in the Boyn Hill district of Maidenhead. The commission was not just for the church alone, but extended to a vicarage and an associated school. As will be seen from an early drawing of the scheme (Fig.VI.13) published in *The Builder* in 1860[28] the site was completely rural at that time and situated on a prominence, with the town overlooking the Thames valley, to the south. Street arranged the group of buildings to form a quadrangle (Fig. VI.15) with the tower and broach spire free standing like a campanile on the perimeter, and visible for miles around (Fig.VI.14).

Berkshire is a county which produces bricks of an attractive orange-red colour and, influenced by the red brick churches which he had seen in Italy, he decided that this should be the principal material for the whole group of buildings. In spite of the fact that church, vicarage and school are all built principally of red brick externally, the character of the church differs a good deal from the vicarage and school. This is largely brought about by the manner in which the colour is handled on the buildings. The surface of the walls to the vicarage and school is generally flat but it is relieved in appearance by horizontal bands of black brick, and parti-coloured arches with black bricks and diaper in the gables. By comparison the exterior of the church appears to

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[27] STREET: *Brick and Marble*, p.278
[28] *Builder, The* (1860): Vol. XVIII, p.769

have more modelling but this is an illusion brought about by the horizontal bands of Bath stone which are accentuated by courses of black bricks above and below. Thus the horizontal bands appear to advance in front of the general red walling and give that emphasis on horizontality which Street was seeking.[29] By the time Boyne Hill was being built the exterior of All Saints, Margaret Street, had been completed and it is interesting to compare these two churches of very similar age. The first thing to notice is the similarity between the vicarage and school of Boyne Hill (Fig. VI.15) and the choir school and vicarage of All Saints, Margaret Street, (Fig. V.13), particularly in the handling of the red and black brickwork. Such similarities are nothing like so apparent in the two churches, a circumstance which seems to be due to two factors. The first is that black brickwork plays a much more prominent role at Margaret Street than at Boyne Hill, the bands of black and stone being more equal in depth, and the black of the diaper having a prominent role in the walling over the arches. The other difference springs from the fact that Street does not share Butterfield's desire to lay stress by ornament on the infill areas above the arches and, instead, (Fig. VI.14) is content to decorate the gable ends just with horizontal bands.

As we pass from the outside to the inside of the two churches the difference in approach to the use of polychromy by the two architects becomes apparent. Street has applied his principle that '<u>all</u> built decoration should be clearly constructional' to the interior of the church as well as the outside and has used the same basic range of materials. This consistency of approach ensures that the architectural links between inside and outside are strong. Street's other principle that 'decoration by colour in arches should be kept as much as possible in distinct rims', is also in evidence at Boyne Hill and this again illustrates the difference in principles between him and Butterfield.

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[29] The church was extended westwards in 1911 so the west facade is a replica of Street's original west end. The brickwork and Bath stone banding is generally to Street's design but the window arches are not

Whereas Butterfield tends to draw attention to the shape of his arches by decorating the surrounding material, Street believes it is the construction of the arch itself which should provide the occasion for decorative colour. In the chancel and sanctuary Street has evidently attempted to strike a balance between two objectives; on the one hand he wanted to maintain his principle of making the built decoration clearly constructional, but on the other he had to meet the requirement of greater enrichment demanded by High Church liturgy. His solution was to combine courses of shiny glazed brick, coloured red, gold, green and black with bands of alabaster. At low level, below the permanent polychromy, the walling was decorated with stencilled motifs (Fig. VI.19 & 20). The analogy between polychromatic horizontal banding and geological strata has already been discussed in Chapter V in relation to Ettington Park, but as Michael Hall has pointed out, writing in the *Journal of the Society of Architectural Historians,*[30] the decorative banding of the walls in the chancel of All Saints, Boyne Hill, may also be held to have a religious significance. Long before All Saints had been built the ideas concerning the origins of the earth, first set down in Lyell's *Principles of Geology* had come to be generally accepted by the Anglican Church. The scientific evidence that different geological strata exhibited a succession of fossils, which increased in complexity as time passed on, was interpreted by the church as a revelation of the fact that through time God had been creating successively more complex species, culminating in man. The natural beds of rock could be seen as an expression of the development of the Earth, rather like the rings in the wood of a tree and there was therefore a sense of history embodied in geological strata. From a religious point of view these strata could be regarded as a metaphor for the progressive unfolding of a

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parti-coloured as they were originally.

[30] HALL, M. (2000): 'What Do Victorian Churches Mean?', *Journal of the Society of Architectural Historians,* Vol. 59/1, (March) pp.82-3 (referenced hereafter as HALL)

divine plan leading from the simplest forms of life to the highest. This process was known as 'development'. As Hall has observed:

> 'it seems likely, therefore, that the vibrant use of polychrome marbles that is such a major feature of church interiors of the 1850s carried metaphorical implications...moreover, the sense of history embodied in geology seemed appropriate to an approach to ecclesiastical ornament that emphasised narrative.'[31]

In applying his principles concerning the use of constructional polychromy Street, like Butterfield, seems to have accepted that there were places in a church where it was appropriate to add to the overall decorative effect by making use of painted polychromy. At Boyne Hill he used it in a similar way to Butterfield at All Saints, Babbacombe, applying stencilled patterns in blue and red to the timbers, and for the panels of the canopy over the high altar in the sanctuary.

In 1859 Street was given his first opportunity to design a major church in London when he received the commission for St James the Less, Westminster, from the three Misses Monk, daughters of the Bishop of Gloucester, who conceived the building as a memorial to their father.

Externally the design shares certain similarities with All Saints, Boyne Hill, particularly in the predominating use of red brick relieved by black brick string courses and patterning used in conjunction with light yellow stone dressings. In contrast to Boyne Hill, St James the Less is much less conventional in plan form and is Street's personal interpretation of Early English Geometrical with assembled English, Italian and French models to create a building far removed in style from the prevailing concept of a Gothic Revival church. As *The Ecclesiologist* put it:

> 'Mr Street rejects the old Gothic of England and invents his own style, in which, if it plays any part at all, it merely enters as one factor, together with the early

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[31] HALL, p. 83

> Gothic of France and that of Italy, and the constructive coloration of southern climates'.[32]

In many respects we can see those same principles at work in the decorative treatment of St James which guided Street when he designed All Saints, Boyne Hill. Externally there is the same flatness of surface and with it a dependence on colour, through the combination of red and black brick together with buff coloured stone to give an illusion of surface modelling (Fig. VI.21). Here at St. James, though, he combines the techniques in one building that at Boyne Hill were kept apart. These colours are used in ornamental bands to lay stress on the horizontal lines of the building and they are used in support of the principle that 'arches should be carefully defined and kept away and distinct in colour from the wall'. St James does, however, reveal some development of Street's ideas since he prepared his design for All Saints, Boyne Hill, five years earlier. The form of the semi-circular apse, with its conical roof shape (Fig. VI.22) meant that the kind of banded treatment employed in the transept gables was no longer appropriate and some other form of decorative treatment had to be devised. Faced with this challenge Street adopted a system of decoration which echoes Butterfield in the way it emphasises the infill nature of the space above the window arches. Internally the apse also posed some special problems for its architectural treatment and Street solved this ingeniously by introducing a sexpartite groined vault with ribs of stone (Fig. VI.23 & 24). Between the ribs the vault is formed of red and black bricks with bands of stone which produces an exotic and very un-English effect, but one which is completely in tune with the chancel arch. The contention that

> 'decoration by colour in arches should be kept as much as possible in distinct rims the same as those natural for the construction; and should on no account...run across the arch and quite to its back',[33]

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[32] *Ecclesiologist, The* (1861): Vol. XXII, (October), pp. 317-26
[33] STREET: 'True Principles', p.261

is a principle which has already been noted and it is interesting to see how differently the arches of the nave arcades of St James and All Saints, Boyne Hill deal with it. At Boyne Hill the inner rim of the arch is plain stone, the next two are parti-coloured, the outer rim plain (Fig. VI.17). Not only do the colours contrast laterally, they also contrast with each other between rims. These contrasts in colour serve to define the shape of the arch very clearly and separate it from the walling above. In contrast, at St James there is one inner rim and after that the surface of the arch is flush with the wall surface above. Because the colours are limited to red and black there is a much more monolithic appearance to the brickwork (Fig. VI.25). The two examples are a reminder of how much difference the presence of all three colours, red, yellow and blue makes to optical effects in constructional polychromy.

Between 1858 and 1877 Street was invited to design several country churches in the North and East Riding of Yorkshire, of which one was for the village of Howsham. At St John's church Street showed that the same principles which had guided him in the design of St James-the-less and All Saints, Boyne Hill, could be used in a small country church with great charm and subtlety. Using stone in the manner he had seen in Northamptonshire, he contrasted pale brown and light grey Whitby stone to produce an irregular banded effect which produced an emphasis on the horizontal line both externally and internally. The same subtle variations were used to contrast the voussoirs over the plate tracery windows and arches and for the sexfoil window in the west gable. In the narthex porch thick red Mansfield stone shafts are used to support lintels carrying the roof and in the North West turret red and green stone columns support a short stone spire (Figs. VI.26 & 27).[34] In his use of natural stone at this church he seems to come closest to Ruskin's principles and indeed there was a mutual appreciation between

[34] HOWELL & SUTTON: p.58

them.[35] This is evident in the use of different coloured stone courses to emphasise horizontality, the effect of natural colours in the turret columns and reredos, and the subtle grading of colour displayed in the chancel arch.

The chancel is enriched by colour in three different ways. The semi-circular ceiling is painted and gilded with a repetitive design in panels in which symbolic motifs of birds, flowers and snakes in colours of green, orange, red and gold appear against a blue background with gold stars. These panels are separated by ribs painted in red and gold (Fig. VI.28). Beneath this stands an elaborate carved and inlaid stone reredos (Fig. VI.29) which is set with jewel-like cabochons of fluorspar in the way which Thomas Earp, the sculptor had used at Boyne Hill. On the floor green, terracotta and red-yellow patterned Minton tiles are combined with slabs of marble to complete the discretely opulent effect (Fig. VI.30). In the pulpit and the font, marbles of red, green, yellow and black are inlaid into the warm grey stone to produce abstract patterns of great beauty (Figs. VI.31 & 32).

We can see therefore that Street had some distinctly different objectives to Butterfield in his use of structural polychromy. The first concerns his belief that this form of construction provided an opportunity for consistency of architectural treatment to take place between the exterior of a building and its interior. This meant that the same materials and architectural details could be used for both and this provided a visual continuity as one passed from outside to inside. Although there is evidence on occasion, such as at Keble College Chapel, Oxford, of Butterfield having a similar objective it is not a concept which exercised the same importance for him which it did for Street. Another difference of approach between the two architects is apparent in the

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[35] RUSKIN: *Various Addresses 1856-60, - Venetian Architecture* (1859), Works XVI, pp.461-3. Ruskin chaired a meeting of the Architectural Photographic Association in London on 15 February 1859 at which Street delivered a lecture, and he used it as an occasion to pay tribute to Street's skilful restoration of the church of St Paul, Herne Hill and which he said was 'remarkable for a piece of colouring admirably

architectural treatment of wall planes. Whereas in a wall arcade Street would give emphasis by means of polychromy to the rims of openings, Butterfield would in contrast stress the surface of the wall plane itself by means of ornament, so the openings would appear as perforations while the rims of the openings would remain unornamented. A further difference is apparent in the treatment of gable walls, particularly where openings occur. For Butterfield this part of the building provided an opportunity to make a statement about the lesser structural significance of the walling above the arch - the lighter loading of this area being emphasised by a greater amount of ornament. In situations such as this Street's answer was to treat the gable with horizontal bands of different colour, reducing the spacing between them as they approached the apex.

William White (1825-1900)

White's early training as an architect gave him little opportunity to develop any talent as a draughtsman since the office in Leamington, where he had been placed, concentrated more on giving him a good grounding in methods of construction. Both in drawing and in art he was therefore self-taught, and the churches and ancient buildings of the neighbourhood provided the only examples for him to develop a knowledge of style.[36]

On completing his articles White went to work in the London office of George Gilbert Scott where his colleagues were George Edmund Street and George Frederick Bodley. The friendship which he developed with these two seems to have flourished and led to them going together on sketching expeditions.

In 1847, at the age of twenty-two, he moved to Cornwall where he quickly established himself in private practice with a variety of commissions which ranged from

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introduced'. This referred to the columns of the nave, which beneath their capitals, have a band of Devonshire marble, the rest being of white stone

a bank building in St Columb to new and restored churches. One of these commissions, renovation of the ancient and interesting moated Rectory of St Columb Major, for the Reverend Dr Samuel Walker was to be of special importance for his future prospects. In 1852 the same client asked him to prepare designs for a new church at Notting Hill, London, an event which was to lead him back to London and widen the scope of his practice.

During the period when he was working in Cornwall, White began to develop some of the principles which characterised his later work, particularly in regard to his use of vernacular materials and varying colour, which he combined with asymmetrical and simplified forms to produce notably picturesque effects. Commenting on the Rectory at Ruan Lanihorne *The Ecclesiologist* commented

> 'One might almost mistake the perspective we have seen of it for an old building; it is so irregular and picturesque. We have some fears for this might, in reality, appear exaggerated'.[37]

For the bank building at St Columb Major, White adopted a Venetian style and we find his emerging interest in the contrasting colours of natural materials being put into effect: '...in grey and yellow stone, some detail in black marble, and the two thin red brick bands...'.[38]

Even though White was working at such a distance from London his work was coming to the attention of *The Ecclesiologist*, perhaps through the good offices of George Edmund Street who was already a contributor, and in 1851 White was invited to read a paper to the Ecclesiological Society entitled 'Upon some of the causes and points of failure in Modern Design'.[39] White listed seven points, any one of which could in his

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[36] WATSON, T.H. (1900): 'The Late William White, F.S.A.', *RIBA Journal*, Vol. 3/vii (10 February) pp.145-6

[37] *Ecclesiologist, The* (1851): Vol. XII, (February), p. 69.

[38] PEVSNER, NIKOLAUS and RADCLIFFE, ENID (1970, 2nd ed.): *The Buildings of England: Cornwall* (Harmondsworth: Penguin) p.165

[39] WHITE, WILLIAM (1851): 'Upon some of the causes and points of failure in Modern Design', *The Eccclesiologist,* Vol.XII, pp.305-13 (referenced hereafter as WHITE: 'Failure in Modern Design')

opinion make a building design faulty, even if it contained other features which were good. Amongst these were two which echoed Pugin in their criticism of architectural features which implied deceit; the first concerned imitation in materials or construction, the second 'facadism' – for example 'if the front wall be of superior workmanship to the sides or even the back of the building.'[40] Later in his talk White elaborated on those failures which could stem from a misunderstanding of building economics. As an illustration he cited,

> 'the adoption of the First-Pointed style of architecture for large or town churches,...from fancying it must be cheap. It is true that the majority of our ancient small country churches of this style are plain and perhaps comparatively inexpensive; but to carry it out on a large scale with its massive walls and deep mouldings, renders it in reality one of the most expensive.'[41]

White also drew attention to the necessity that the demands on workmanship or materials should be proportionate to the purpose of a building;

> 'It is...inconsistent in a small ordinary building to employ peculiarly expensive work or materials. Its effect is quite that of being out of its element – it is aiming at something beyond its proper position.'[42]

Another fault quoted by White was that designs often employed fine work and expensive materials for some things, whilst poor and mean ones were used in other parts. He insisted 'it should be as nearly a uniform whole as it is possible to maintain.'[43] A further concern of his was that materials were often inappropriate for use in a district and it was important to ensure that new buildings pay respect to the surrounding scenery and their materials, even the treatment of them, should reflect their location.

> '...if it is a country for bricks and tiles, slate ought not to be introduced for the roofs; the coldness of colour on the roof, contrasted with the warmth of the walls is offensive, and inharmonious with the surrounding scenery'.[44]

At Hatherden, Hampshire, White built a small village church (Christ Church) in

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[40] WHITE: 'Failure in Modern Design', p.306
[41] WHITE: 'Failure in Modern Design', p.308
[42] WHITE: 'Failure in Modern Design', p.308
[43] WHITE: 'Failure in Modern Design', p. 308
[44] WHITE: 'Failure in Modern Design', p.308

1857 which admirably followed these principles of appropriateness in quality and appropriateness of material. It is built of the local flint with the addition of red brick dressings to the windows and door openings, buttresses and bonding courses, and yellow bricks on the voussoirs to the porch archway (Fig. VI.33). Originally, it was roofed with red tiles but the nave has subsequently been roofed with unsympathetic modern sheet metal. The use of vernacular materials ensured that the building blended comfortably with its rural surroundings but there are also features about the way which they were used which set it apart from its neighbours. Not only does brickwork define the openings in the flint walling, it does it in a decorative manner, either by inserting individual radiating bricks over the window arches, or, in the case of the porch archway, by the use of yellow brick voussoirs inserted at intervals with the red brick; also by introducing an outer course of red bricks which follow the shape of the arch and are linked to it by individual radiating bricks.

White has used the brickwork on the outside in a decorative manner which provides an introduction to the interior. Today we can only judge the treatment of the interior by reference to the vestry, since the nave and chancel have unfortunately in recent times been plastered and painted. This is sufficient, however, to make White's intentions clear. Those red bonding courses which we have seen on the outside give us a clue as to the decorative treatment of the interior. On the inside they are repeated, but instead of there being flints, smooth light yellow facing bricks take their place, with the addition of extra brick string courses and a dado (Figs. VI.34 and VI.35).

The manner in which White links the decorative treatment of the exterior and interior here at Hatherden and later at St Michael and All Angels, Lyndhurst, Hampshire, (1858), invites speculation as to whether the concept was entirely his own or whether it owed something to Viollet-le-Duc. Publication of *Dictionnaire Raisonné de l'architecture Française* had commenced in 1854 and White was sufficiently well

travelled and read to be well aware of Viollet-le-Duc's work even if he was not apparently influenced by his theories. Viollet-le-Duc's views concerning the virtue of providing a close relationship between the external and internal ornamentation of a building were first published in the *Dictionnaire* but the same idea was later conveyed in *Entretiens sur l'architecture* published in 1864 (translated into English 1877). One statement by Viollet-le-Duc brings to mind White's own approach to the link between internal and external decoration.

> 'One of the charms of good architecture consists in a close relationship between the external and internal ornamentation. The external ornamentation should prepare the spectator for and prefigure to him that which he will find within'.[45]

Nowhere do we find White referring to Viollet-le-Duc in his papers or lectures and it seems much more likely that in his application of full constructional polychromy, he was following his own inclinations. In not being swayed by Viollet-le-Duc's theories, White seems to have been no different to other leading English architects of his day for, according to Robin Middleton the volumes of the *Dictionnaire* were,

> 'looked upon as works of reference, repositories of information, providing brief and reliable histories of a whole range of buildings and features. They were even more eagerly consulted for precedents and examples, sources of inspiration for all sorts of architectural ornamentation and detail. But on the whole, having looked at the *Dictionnaire* English architects tended to travel to France to see and sketch for themselves the features they admired. They were explorers'.[46]

White shared Viollet-le-Duc's attitude to the use of applied ornament and like him believed that ornament should derive from the structure of a building. The dilemma for him was, however, that while he believed in a form of architecture which was ornamental he found himself having to economise in the forms of construction which he used for those churches and rectories which were the mainstays of his architectural practice.

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[45] VIOLLET-LE-DUC, EUGENE-EMMANUEL (1881): *Lectures on Architecture*, Vol.2 Lecture XV, unabridged republication of the work as first published in English, (New York: Dover, 1987) p.202
[46] MIDDLETON, ROBIN (1981): 'Viollet-le-Duc's influence in Nineteenth Century England', *Art History*, 4/2, (June), p. 203

Two buildings of this period illustrate the manner in which White exploited constructional polychromy to provide a solution to these conflicting demands. In 1857 a new rectory was built to his designs for the parish of Little Baddow, in Essex. White had already built a previous rectory at Halstead, Essex (now demolished) but he seems to have had less opportunity to incorporate his own architectural principles there. Certain of these principles were explained in his paper to the Ecclesiological Society of 1851[47] and at Little Baddow rectory we can see how he dealt with them in practice.

One theme, to which he regularly returned, was the balance between the general outline of a building and the way in which this is supported by detail and ornament.

> 'As architecture is the expression of an idea, so is this expression twofold, the one part consisting in the proportion and general outline of a building, the other in the minor parts and details. The one in a properly designed building almost shows at first sight the purposes and use for which it was intended. The other is entirely subordinate and chiefly instrumental in adding grace, fullness and harmony to the design'.[48]

Later, in the same paper White made the point that while churches conform much more in their general outline, owing to the fact that their plans and form follow a pattern, this is not true of houses.

> 'Not that every building *must* have irregularity to give it character, but a house must; because a house is a building that of undeviating necessity consists of so many different kinds of apartments, and it ought to be almost distinguishable from the exterior that each has its proper office and position'.[49]

At Little Baddow (Fig. VI.36) we can see that once White had used this irregularity and variety of outline to emphasise the residential nature of the building, he then proceeded to use the construction materials to give an overall sense of balance and harmony between the mass of the building and the openings formed in its external walls. The initial impression brings to mind *The Ecclesiologist*'s comments[50] in regard to the rectory at Ruan Lanihorne of being 'irregular and picturesque', and there is that feeling

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[47] WHITE: 'Failure in Modern Design', p.305-13
[48] WHITE, 'Failure in Modern Design', p. 306

of spontaneous informality which is characteristic of many mediaeval houses. Examination of the brickwork belies this impression for it reveals the care which has been taken to produce this effect. Although there are only two colours of brick - buff and red - variety has been obtained by alterations in the bonding. Bricks are laid on edge, some courses are stretcher bond, others are header. Sometimes the overall effect is mainly red, in other areas buff predominates. In places, where there is need to reflect the positions of openings the coursing is broken and bricks laid vertically (Fig.VI.37). The arches over windows and doors are formed with the same colour bricks but red tiles are introduced. Far from being incidental the external walling is handled as carefully as an exercise in abstract geometry. This is something quite different from Ettington Park,[51] for instance, where the layered effect is much more regular and consistent and the bands run across walls and window bays alike.

But White seems to be doing more than conducting an exercise in pattern making with the brickwork. It is as if he is using the bricks in different ways to take account of structural variations in the wall and then letting them testify to the jobs they are doing. Nowhere is this more apparent than in the North gable for instance where there is a stepped effect (Fig. VI.38). At Little Baddow rectory we have an example of his ability to bring about a unity of economic construction and decorative effect.

For a house White's ideas on constructional polychromy were generally only applicable to the exterior of a building but in 1858, the year after completing Little Baddow rectory, he was presented with the opportunity of testing them more comprehensively, when he was asked to design a new parish church at Lyndhurst, Hampshire, to replace the existing one. As with the rectory, building economics were to be an important argument for his employment of constructional polychromy in the

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[49] WHITE: 'Failure in Modern Design', p.310
[50] *Eccclesiologist, The* (1851): Vol. XII, (February), p.69

design, both inside and outside the church. At Lyndhurst there was no local stone available but there was a plentiful supply of clay of different colours for brick and tile work. Brick then was to be the principal construction material for the building and White proposed that different coloured bricks should be used together on the inside for decorative effect. As he was later to state in an article in *The Ecclesiologist:*

> 'The entire absence of good local material for interior treatment, sometimes involves the erection of buildings of the simplest possible forms which require something more than their bare walls, presenting extensive colourless surfaces, in order to a moderate amount of comfort or repose. The "Gothic church" does not always answer to this glowing image of unadorned beauty, either in its finish or its natural material. And in such cases we have to depend upon colour almost exclusively for other deficiencies.'[52]

White maintained that colour was indispensable for producing a feeling of repose in an architectural interior and where painted decorative colour could not be afforded, some other means should be found to introduce it.[53] Constructional polychromy was therefore a way of providing an affordable solution.

But there was another more radical reason for White's interest in constructional polychromy. Ornament was becoming debased in his view, both in its quality and profusion:

> 'a profusion of ornament marks the decline of art more than anything else...as art declines they (the people) still continue conscious of a want, and seek to satisfy it with anything that can at all compensate for the lack of real beauty.'[54]

If good quality carved ornament could only be afforded at the expense of utility elsewhere, then it was best to do without it. White was opposed to the production of

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[51] See Chapter 5 of this thesis

[52] *Ecclesiologist, The* (1861): Vol XXII, p. 142

[53] *The Ecclesiologist*, Vol XXII, June 1861, p.142. 'I know that repose is dependent upon a variety of causes. Form, proportion, construction, shadow, texture, and all the various principles of treatment deducible from nature, have each their several effects, more or less according to their immediate presence and application, upon the production or dissipation of a general repose...I maintain that in order to this general repose in an architectural interior, colour – I do not say applied colour, but colour – of some sort, is absolutely indispensable.'

[54] WHITE, WILLIAM (1853): 'Modern Design', *The Ecclesiologist,* Vol.XIV, p.327 (referenced hereafter as WHITE: 'Modern Design')

ornament by mechanical means, since 'people begin to mistake the ornament for the reality.'[55]

The interior which he produced was one of startling originality (Figs. VI.39 & 40). Through the interplay of five kinds of brick, white, buff, blue grey, light red and dark red, all of which form the essential structure of the building, a rich decorative effect is achieved. The only exception to this rule is where Purbeck marble is used for the nave arcade cluster columns and for the shaft columns of the blind arcades to the aisles. The horizontal banded effect of the walling to the nave gables and aisle walls, produced by white and buff bricks, with separating courses of red brick provides a counterpoint to the verticality of the nave arcades. In these red predominates, since the arches are entirely of red brick, except for a single outer course of blue bricks which defines the edge of the spandrels. One of the effects of this banding is to give unity to the mass of the east gable wall of the nave and aisles and in so doing to emphasise the shapes of the chancel arch and the small arches on either side. The strongly banded effect on this wall, with its emphasis on horizontality, reflects Street's ideas, but in the strength of contrast between wall pattern and arch surround it is quite unlike anything Street designed. If anything, it relates more closely to Butterfield's approach in the way it gives more ornament to the infill walling than to the arch itself.

Greater richness of effect in the chancel is achieved by the use of carved stone voussoirs to the chancel arches (Fig. VI.41), the stained glass, East window, and more colourful floor tiling. The reredos painting by Frederic Leighton was not part of White's original concept and was added shortly after the chancel had been completed.

The principle of making the external ornamentation prepare the visitor for the interior is applied more resolutely at St Michael and All Angels than in any other of White's buildings. The arch over the west door and the arch at the east end of the

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[55] WHITE: 'Modern Design', p.327

chancel provide an example of this symbiosis. In each case a band of pierced limestone is outlined with a course of red bricks leading to another order of buff brick voussoirs interrupted at intervals by blue brick courses. A further order of dark bricks then separates the arch from the fabric of the wall (Figs. VI.42). Another instance of the links between inside and outside may be found in the 'sunray' tile treatment of the low level windows. The device of putting a course of red tiles around the plate tracery with radiating tile courses, to be seen in the north porch (Fig. VI.43) and which is used on the north aisle widows externally, is repeated in the blind arcade in front of the windows to the north aisle. Small details such as these all help to give scale and character to the building and are part of the realisation of its 'constructive idea'. Although work on the construction of St Michael and All Angels began in 1858 it was carried out in two distinct phases: the nave, choir, north transept and the interior of the tower were completed first, while the tower itself and its spire followed in 1868-9 (Fig. VI.44).

During the 1860s White was responsible for a large number of works, principally churches, schools and parsonage houses. In 1865 he was engaged to design a new nave and chancel for the existing eighteenth century church of St Martin's at Fenny Stratford in Buckinghamshire.[56] White's solution was to replace an early nineteenth century aisle, which had been added to the old church with a new nave and chancel, linking them together by means of a new arcade (Fig.VI.45). Little survives of the exterior of White's building since the nave was extended to the west and a new south aisle added in 1907. The polychromy over the east window (Fig. VI.46) has, however, survived and it was this form of ornament which was originally used in the west gable and in panels over the nave windows to the south. Elsewhere the external walls were ornamented with diaper. In the six years since St Michael's, Lyndhurst, was built, White had

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[56] See LEGG, EDWARD (1986): *Saint Martin's Parish Church, Fenny Stratford: A Short History*, (Milton Keynes) The original church is of unusual interest, being a rare example of a Gothic style building

evidently adopted Butterfield's idea of giving emphasis to the form of the window arch by means of brick ornament in the infill between arch and verge. Internally we find that White has introduced a number of other new ideas. All the arches are of moulded brick, the inner and outer courses being of red brick while the middle course is of pink brick, these being embellished with a coloured leaf pattern, either bright green or cream. Above the peaks of the arches rides a panel of brick, expressed rather like a 'castellated' beam, which in turn supports the wall plate of the roof timbers. The spandrels are emphasised with inverted 'V's of black and white brick over plain red, leaving the adjacent spaces to be ornamented further with black diaper pattern. White seems to have outdone Butterfield in his desire to stress the structural aspects of the masonry by means of constructional polychromy. Similar ideas involving brick polychromy have been employed in the chancel, together with some new ones (Fig. VI.47). In the spandrels over the arched opening leading to the Memorial Chapel (Fig. VI.48) White introduced a pattern of diagonal interlocking red and white brickwork. Here may be seen an example of the architect's perverse pleasure in asymmetrical forms, where the squint between the north aisle and chancel interrupts the form of the Memorial Chapel arch, and the way in which he has used polychromy to express the different surfaces at the junction.[57] The chancel and sanctuary are also distinguished both architecturally and liturgically by the use of painted ornament. In addition to the leaf patterns on the arches the interstices of the herring-bone pattern are decorated with stylised flowers in red, green and gold; there is a band of chevron pattern ornament, at screen head height, in red, green, gold, brown and white between courses of black bricks (now obscured in the sanctuary) and quatrefoil motifs in gold, green, red and black on the sanctuary wall (all

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constructed in the early eighteenth century (1724-30). The eighteenth century building is now the north aisle.

[57] PEVSNER, NIKOLAUS, WILLIAMSON, ELIZABETH and BRANDWOOD, GEOFFREY (1994, 2nd ed.) *The Buildings of England: Buckinghamshire*, (Harmondsworth: Penguin) p.522, Pevsner remarks on the 'roguishness' of this feature

but one now painted over). The canopy over the high altar is also painted but believed to be of more recent origin.

At the same time that the rebuilding of St Martin's was taking place White was responsible for another church at Aberdeen Park, Islington; also completed in 1866. Although in many ways a more important example of White's work than St Martin's, since the whole building was carried out to his designs, St Saviour's suffers from being in poor condition and the interior is currently divided into a group of artists' studios. In spite of this disadvantage White's polychromy is very much in evidence and it is therefore possible to make a comparison between the two churches. Externally one is immediately struck by the similarity in treatment of the two churches (Figs. VI.46 & 49). At St Saviour's a diaper pattern has been used covering the whole surface of the gable between the springing of the arches and gable verges, but here the colouring is more restrained, being limited only to black brick against the general red brick surface. Elsewhere constructional polychromy is not in evidence on the exterior. Inside the diaper is repeated in the gable, the only difference being that a mixture of white and black bricks have been used in the pattern. We are reminded again of White's desire that the exterior should provide an introduction to the interior. Many of the same principles which guided the use of polychromy at St Martin's are also in evidence at St Saviour's. The brickwork of the massive arches is left plain and it is left to the herring-bone pattern brickwork in the spandrels to emphasise their form (Fig.VI.50). In the crossing vertical panels of white brickwork rise above the arches and testify to the downward load of the tower above (Fig. VI.51). In the chancel and a former aisle chapel the brick surfaces have been enriched with painted foliated ornament coloured in maroon, pale blue and gold (Figs. VI.52 & 53). The colouring is sympathetic with the somewhat mysterious mood of the building and produces an effect as if you are looking at the structure through a veil.

Colour plays a large part in determining the mood of these two churches. At St Saviour's the colour is restrained and sophisticated, as befitted a prosperous London suburb, while St Martin's displays a country exuberance with its restless and cheerful polychromy. The psychological effect of colour in determining the atmosphere or mood of a place, and the effect which it could have on its occupants were subjects of great interest to White. As a person who took an active interest in social welfare he believed that there needed to be more research into the relationship between colour and mental health, so that the knowledge gained could be put to good use in public buildings such as hospitals, school and homes for the poor. In a talk which he gave in 1861 at the South Kensington Architectural Museum, White drew attention to the links between colour and the mind,

> 'there is...a set of optical nerves actively influenced by the presence of colour, affecting us in different ways according to the particular colour with which we come into contact...Colour of some sort is indispensable to the healthy condition of the eye itself and that the condition of the brain again is in a great measure dependent upon the healthy action of the nerves thus affected, and these nerves are affected in a way sensibly different by different colours. Thus they are excited by the presence of red, soothed by the presence of green and deadened or benumbed by the presence of blue. To yellow the eye is drawn as to light. White and black, again, affect people in the same sort of way as light and darkness affect them, but in a less degree.'[58]

White believed that a more scientific and analytical approach was required for studying the effects of colour and the ways in which it could be applied with beneficial effect. The results of any such investigation could then in his view be developed into:

> 'a systematic code of colouring, or some practical methods of arrangement for ensuring the production of satisfactory results.'[59]

Any such system of coloration developed could then, White suggested, be used to inform people in branches of 'art-education' and 'common-house painters' who were responsible for producing colour schemes.

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[58] ANON. (1861): 'A Plea for Polychromy', *The Building News*, Vol. VIII, (18 January), pp. 50-55
[59] 'A Plea for Polychromy', p. 50

Conclusions

Whereas previous chapters have been concerned with the way architectural polychromy was influenced by abstract and non-material concepts, such as the optical perception of colour, religious symbolism and the colour lessons to be gleaned from Nature, this chapter has focused on the less abstract and more material question of the development of the practice of constructional polychromy in the mid-nineteenth century. The feature of constructional polychromy is that, unlike decorative painting or tile work, it is not applied after construction but is provided by the brick, stones, or tiles used in the building. Architects are usually obliged to appoint general contractors for their building projects who had secured the contract by putting in the most favourable tender. This meant that an architect could not be certain whether he would be working with a preferred general contractor, who had proved himself as to his reliability and quality of work, and this had special implications for a building in which the ornament was integral with the structure rather than added afterwards. Where the building materials were to be used to good ornamental effect the architect needed to give thought well in advance of construction if his expectations were to be fulfilled. This is necessary so that the materials may be chosen and ordered in advance of construction and so that the cost of the building may be agreed with the builder when a contract is signed with him. Skilled architects, such as Butterfield, Street and White, prepared detailed drawings which showed exactly how the various materials were to be assembled and this led them to arrive at a number of guiding principles as to how and why ornament should be introduced. There were a variety of reasons for these to evolve. For instance, one set of principles might concern the use of ornament in a way which said something about the structural system of the building; another set might involve the architectural effects to be desired; a third concerned the use of decorative material to say something about the hierarchy of spaces - and in the case of a church to provide religious symbolism.

The reason why this chapter has concentrated on the work of Butterfield, Street and White is that they were all architects who produced buildings in which a number of identifiable ideas or principles were at work. In the case of Street and White the task of identifying them is made easier by the fact that they lectured and wrote about their views, and we are therefore able to compare these with their built designs. Butterfield, however, made this more difficult for us since he chose to remain silent, and it is only by looking at examples of his completed work that we can discern the ideas by which he was guided. What becomes generally apparent, though, from the examples considered in this chapter, is that colour played a major part in the realisation of these principles.

At All Saints, Margaret Street, for instance, Butterfield's use of coloured brickwork revealed that red and blue-black bricks, combined with a yellowish stone, could create an illusion of modelling on an otherwise flat surface. The effect thus produced was then put to a range of uses to give substance to various ideas. For instance, its decorative effect was used to give emphasis to the infill brickwork and spandrels above the arches and thus to draw attention to the structure; it provided horizontal emphasis for the brickwork between and below the windows, and it was used to define the form of the windows and their arches. All these effects may be observed in the exterior of Keble College Chapel, Oxford. This idea that the colours of natural building materials could be combined to create an illusion of modelling on an otherwise flat surface was not in itself original. As we have seen in the tile patterns produced by Owen Jones during the 1850s (Figs. II. 11, 12 & 13), a simple range of blue, red and yellow tiles could be combined with black and white to produce optical effects of modelling. Where Butterfield, Street and White seem to have made an original contribution is in the way the constructive materials themselves were put to this decorative purpose.

As an enthusiastic and observant traveller, Street was struck by the dreariness of stone Gothic Revival churches in England, by comparison to buildings which he saw on the Continent. Like Ruskin he was aware of the range of colourful materials which were available in the British Isles and realised there was no reason why the rich effects which he had seen in Italy and France should not also be achieved in Britain. By observation he could also see that materials of different colours could be assembled in a way which could give greater clarity to the structure of a building and in doing so provide decorative effect. An examination of the use of colour in three Street buildings: All Saints, Boyne Hill, St James-the-Less and St John's, Howsham, show there to be a hierarchy of coloured elements which all contribute towards the overall decorative effect. The first and principal element is the main structure of the building, which in the case of St James, for instance, is mainly brick of different colours and a small amount of stone. This is succeeded by inlaid surface decoration making use of marble and composition, as may be seen in the reredos and in the chancel arch. Coloured encaustic tiling is then used on the floor of the nave and aisles and on the dado as a wearing surface, the chancel being laid with richer materials and colours – usually some green tiles and slabs of white marble. Finally, major church furniture, consisting of the pulpit, font and altar back are then given special treatment by the addition of inlaid marble and cabochons of semi-transparent stone.

Of the three White is the architect who seems to have taken the most interest in colour theory even though he had no ambitions to develop theories of his own. His interest derived from his belief that colour could help to determine the mood of a building and that studies needed to be carried out so there was a greater understanding of the effect of colour on the human psyche. White's belief that colour could help to determine the mood of a building overlapped with his wider interest as a social reformer. He believed insufficient attention was being given by those responsible for

welfare institutions to that contribution which colour could make towards the 'cheerfulness of effect in our hospitals, in our workhouses, in our schools, in our churches, in our homes for the poor,'[60] which he believed to be so lacking at that time. Five years before White gave his talk 'A Plea for Polychromy', *The Grammar of Ornament* had been published and Owen Jones had lectured widely on the subject of colour theory. On reflection it seems curious, therefore, that White made no references to Jones's work in his own lectures or articles, particularly since he had declared that the subject of colour needed to be approached more scientifically and that a systematic 'code of colouring' needed to be established. The characteristic which all three architects seem to have shared with Jones is an instinctive way of seeing colour as part of the substance of a building. This remained true of Butterfield throughout his long career but, as we shall see in Chapter VII, it diminished in Street's case towards the end of the 1860s.

In spite of these wider interests White remained a man with a very practical approach to life. For him, a motivating factor in his work was a perceived need to build inexpensively so that funds could be stretched to provide spaces of generous proportion. Money could be saved if modelling was kept to a minimum, but the penalty for this was large expanses of unrelieved surface. The employment of bands of brick in different colours did three things: it provided surface relief, it introduced colour through the use of natural materials, and the banding served to emphasise horizontality. By only using stone for plate tracery, and features such as carved capitals and impost blocks, White was able to make cost savings, particularly in an area like Lyndhurst where stone was not locally available. This was also consistent with his view that, where possible, vernacular materials should be used. For White this concept seems to have played an important part in his thinking while Butterfield was the least affected by this argument.

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[60] 'A Plea for Polychromy', p.51

At Little Baddow rectory the external wall treatment showed that surface pattern, making use of brick and tile of contrasting colour, could enhance picturesque effect and emphasise the massing. These practical considerations merged with his interest in colour and led him to conceive that colour, as it appears in building materials, could be a means of making the 'constructive idea' clearer in his architecture.

Fig. VI.1 St Augustine's Church, Penarth: interior view towards chancel

Fig.VI.2 Keble College chapel, Oxford: south elevation from the quadrangle

Fig.VI.3 All Saints Church, Babbacombe, Devon: walling over the nave arcade

Fig.VI.4 All Saints Church, Babbacombe, Devon: view of sanctuary

Fig. VI.5 All Saints Church, Babbacombe, Devon: stone flooring to sanctuary

Fig. VI.6 All Saints Church, Babbacombe, Devon: decoration of nave roof

Fig. VI.7 All Saints Church, Babbacombe, Devon: decoration of aisle roof

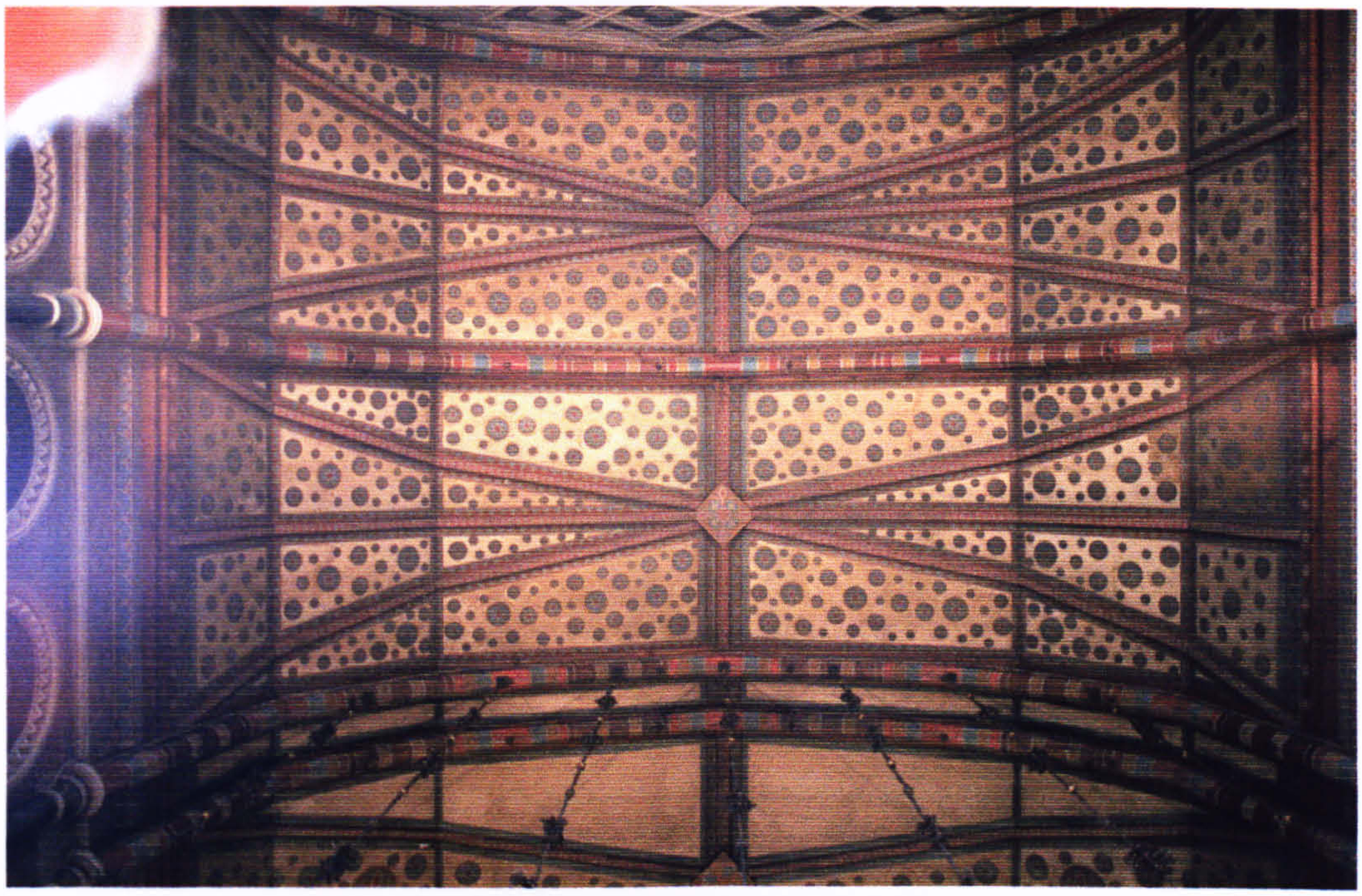

Fig. VI.8 All Saints Church, Babbacombe, Devon: sanctuary vault

Fig. VI.9 Keble College Chapel, Oxford: general view of the interior

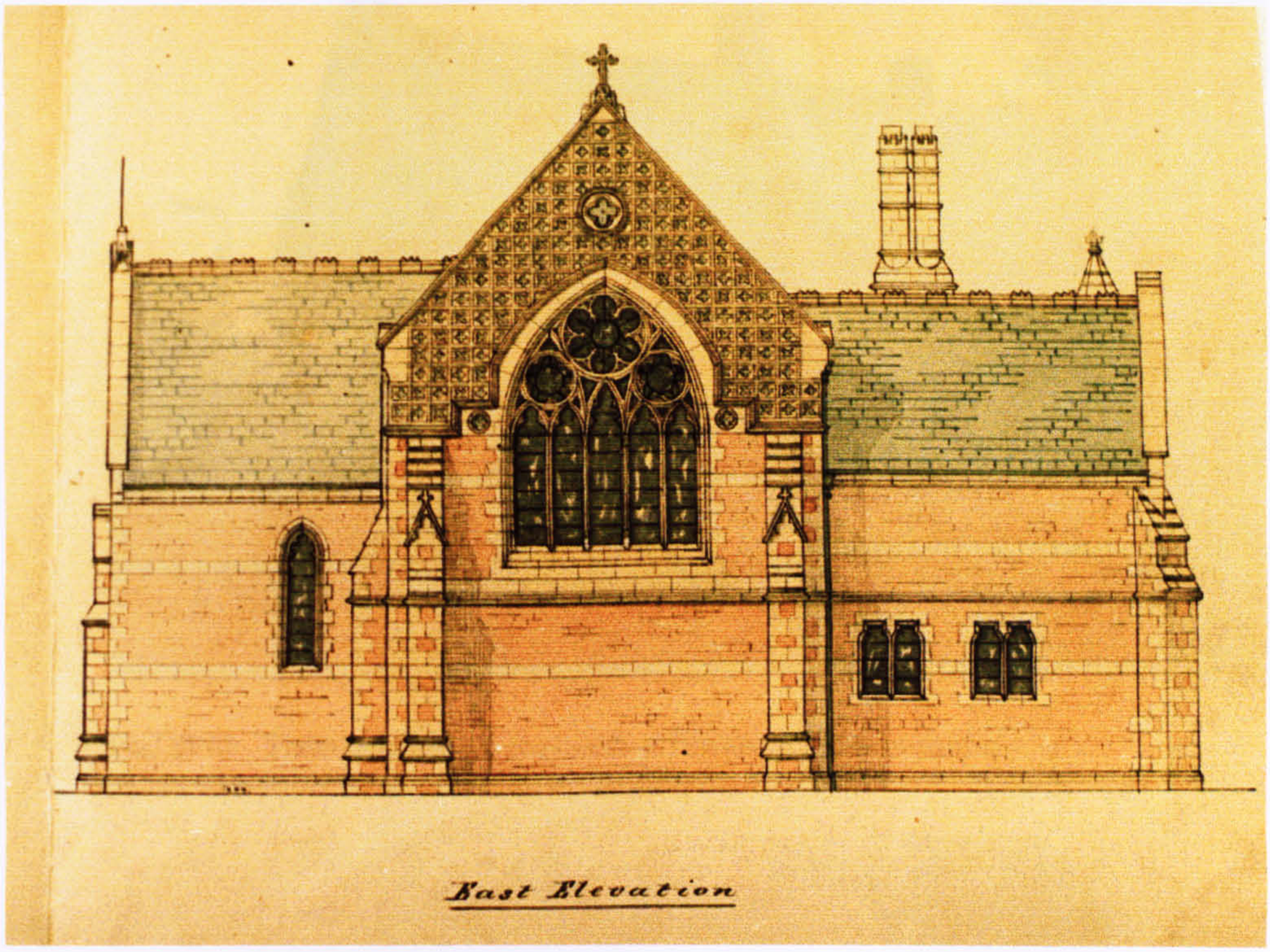

Fig. VI.10 All Saints Church, Babbacombe, Devon: Butterfield drawing of east elevation

Fig. VI.11 Inkpen Primary School, Berkshire

Fig. VI.12 Traditional banded stonework at Blisworth, Northamptonshire

ALL SAINTS', BOYNE HILL, BERKS.—MR. G. E. STREET, ARCHITECT.

Fig. VI.13 All Saints Church, Boyne Hill, Maidenhead, Berks: aerial perspective *(The Builder)*

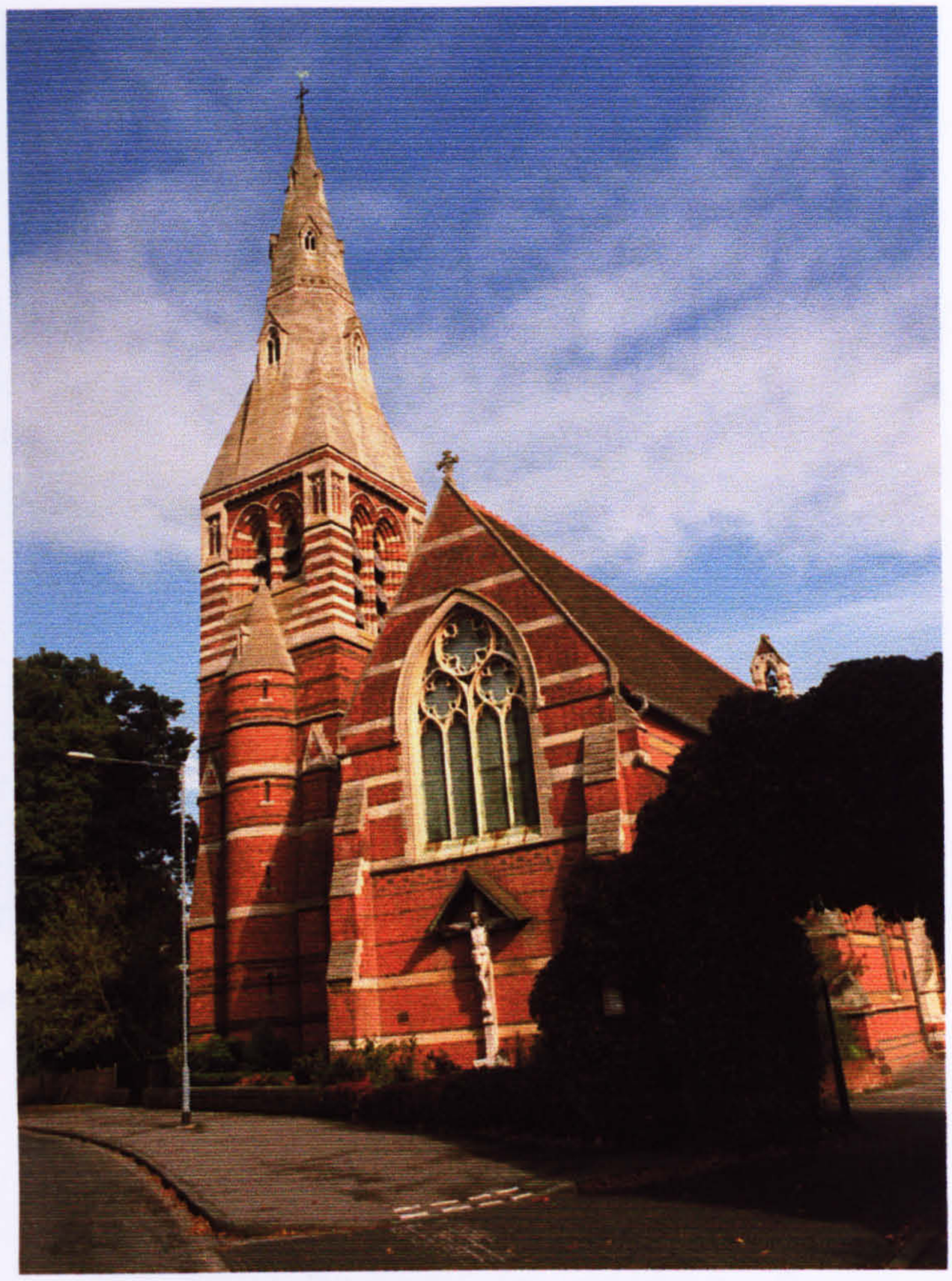

Fig.VI.14 All Saints Church, Boyne Hill, Maidenhead, Berks: tower and west end

Fig. VI.15 All Saints Church, Boyne Hill, Maidenhead, Berks: courtyard with vicarage and school

Fig. VI.16 All Saints Church, Boyne Hill, Maidenhead, Berks: interior view towards chancel

Fig. VI.17 All Saints Church, Boyne Hill, Maidenhead, Berks: spandrel to nave arcade

Fig. VI.18 All Saints Church, Boyne Hill, Maidenhead, Berks: nave arcade and north aisle

Fig. VI.19 All Saints Church, Boyne Hill, Maidenhead, Berks: chancel arch with Street's mural

Fig. VI.20 All Saints Boyne Hill, Maidenhead, Berks: chancel wall decoration

Fig. VI.21 St James the Less, Westminster: north façade with entrance under tower

Fig. VI.22 St James the Less, Westminster: east end

Fig. VI.23 St James the Less, Westminster: interior view towards chancel

Fig. VI.24 St James the Less, Westminster: interior view of semi-circular chancel

Fig. VI.25 St James the Less, Westminster: capital and spandrel in nave arcade

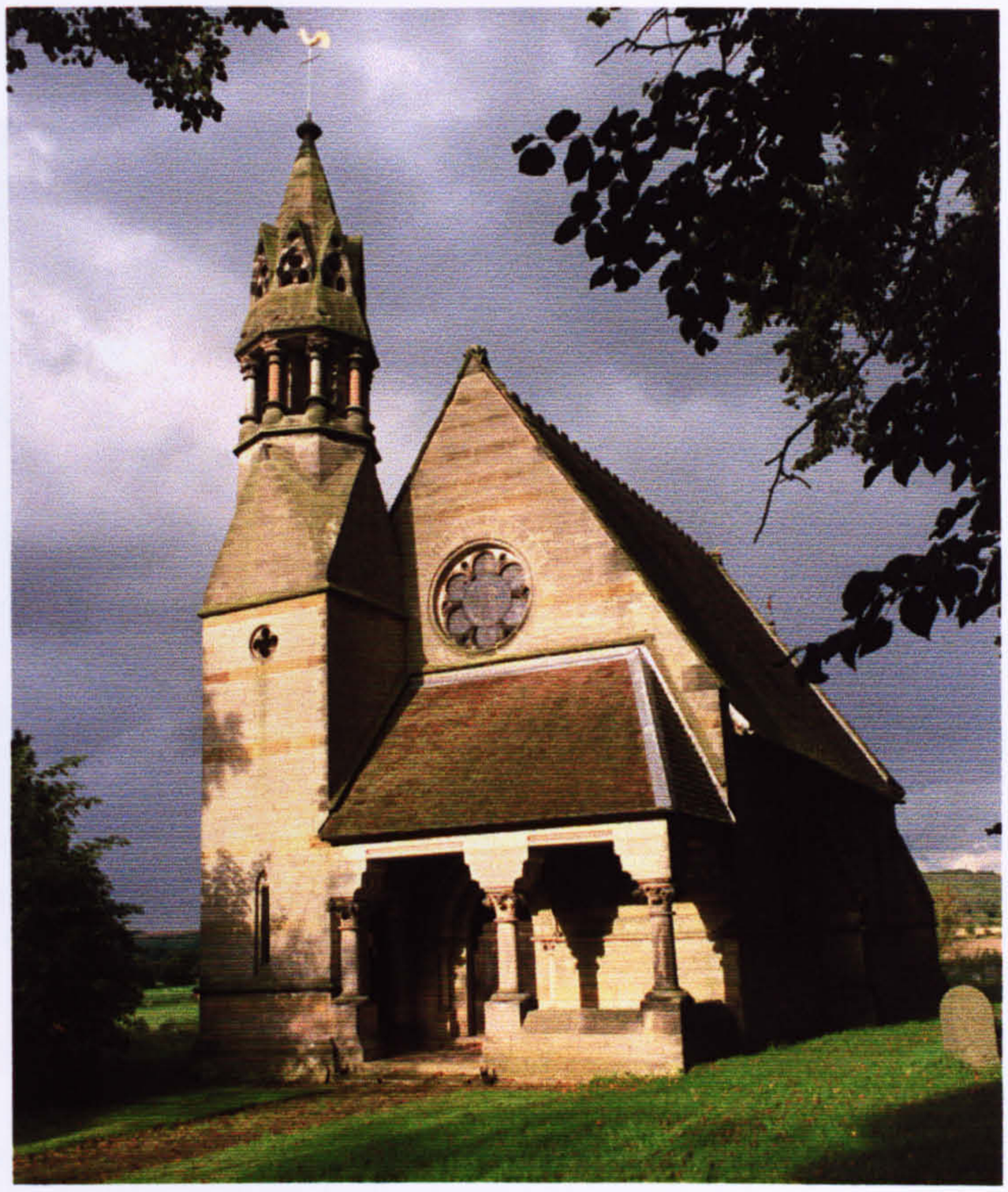

Fig. VI.26 St John's Church, Howsham, Yorks: west end with cloistered porch and tower

Fig. VI.27 St John's Church, Howsham, Yorks: interior view towards chancel

Fig. VI.28 St John's Church, Howsham, Yorks: painted ceiling in chancel

Fig. VI.29 St John's Church, Howsham, Yorks: detail of altar and reredos

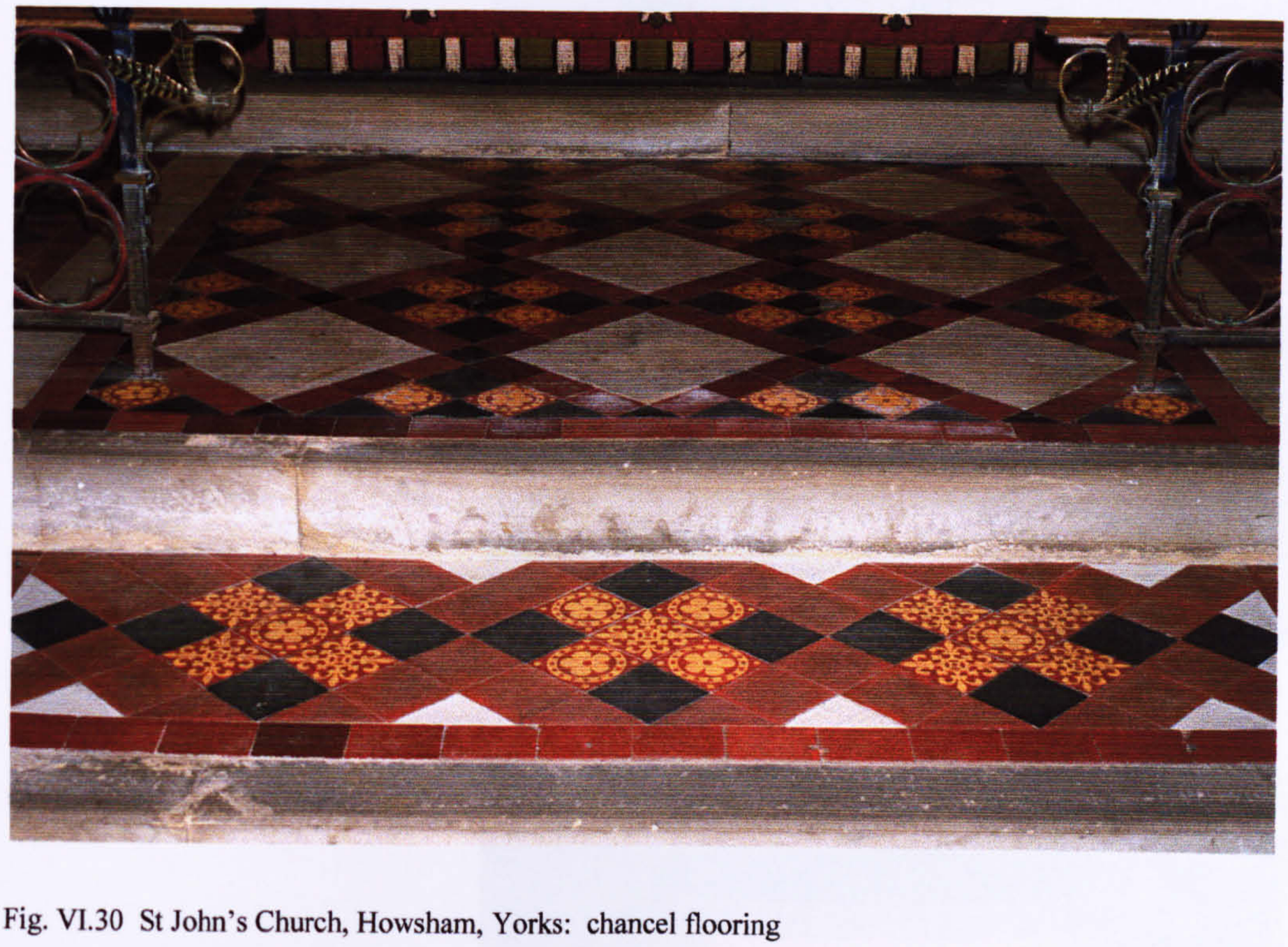

Fig. VI.30 St John's Church, Howsham, Yorks: chancel flooring

Fig. VI.31 St John's Church, Howsham, Yorks: pulpit

Fig. VI.32 St John's Church, Howsham, Yorks: font

Fig. VI.33 Christ Church, Hatherden, Hants: brick dressings to flintwork

Fig. VI.34 Christ Church, Hatherden, Hants: interior view of lancet window

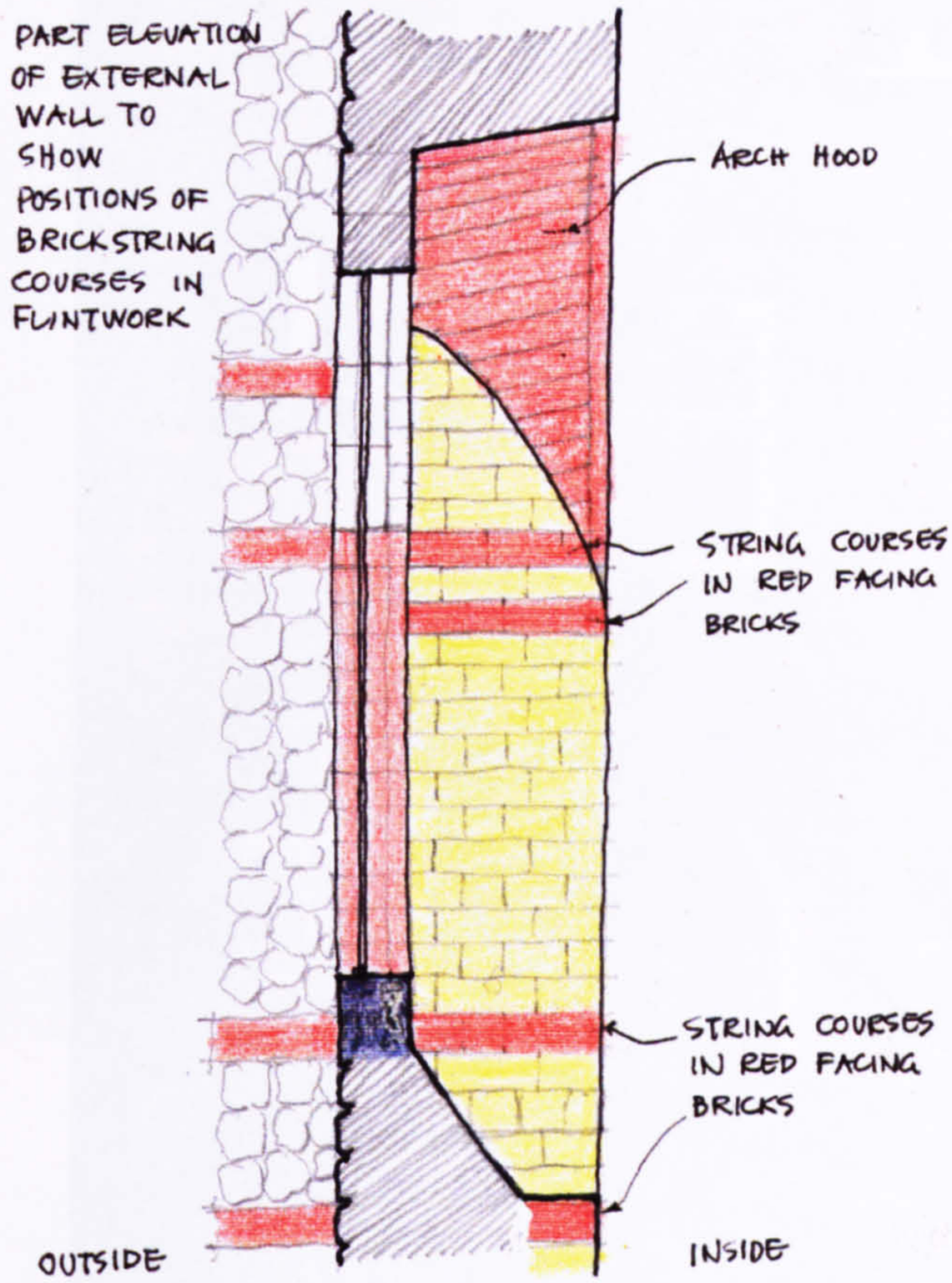

Fig.VI.35 Christ Church, Hatherden, Hants: section through lancet window

Fig.VI.36 Little Baddow Rectory, Essex: view from south

Fig. VI.37 Little Baddow Rectory, Essex: brick coursing on south facade

Fig. VI.38 Little Baddow Rectory, Essex: brick coursing on north gable wall

Fig. VI.39 St Michael & All Angels Church, Lyndhurst, Hants: view towards chancel

Fig. VI.40 St Michael & All Angels Church, Lyndhurst, Hants: view of nave arcade and north aisle

Fig. VI.41 St Michael and All Angels Church, Lyndhurst, Hants: decorated arch within the chancel

Fig. VI.42 St Michael and All Angels Church, Lyndhurst, Hants: west entrance door

Fig. VI.43 St Michael and All Angels, Lyndhurst, Hants: side wall of north porch

Fig. VI.44 St Michael and All Angels, Lyndhurst, Hants: east end and spire

Fig. VI.45 St Martin's Church, Fenny Stratford, Bucks: arcade between nave and north aisle

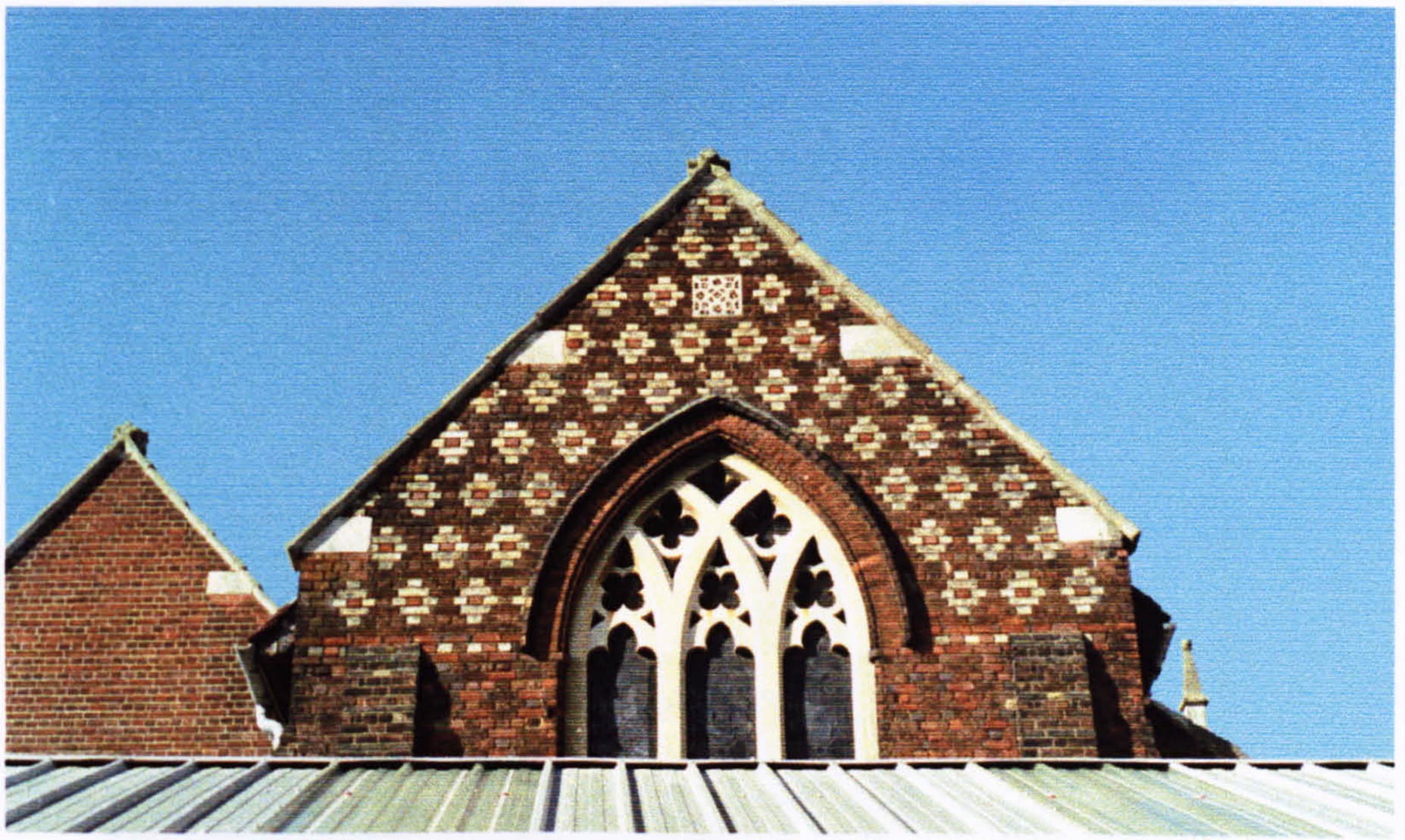

Fig. VI.46 St Martin's Church, Fenny Stratford, Bucks: upper part of east window

Fig. VI.47 St Martin's Church, Fenny Stratford, Bucks: chancel and sanctuary from the nave

Fig. VI.48 St Martin's Church, Fenny Stratford, Bucks: entrance to memorial chapel from the chancel

Fig. VI.49 St Saviour's Church, Aberdeen Park, Highbury, London: west end

Fig.VI.50 St Saviour's Church, Aberdeen Park, Highbury, London: view from nave towards crossing

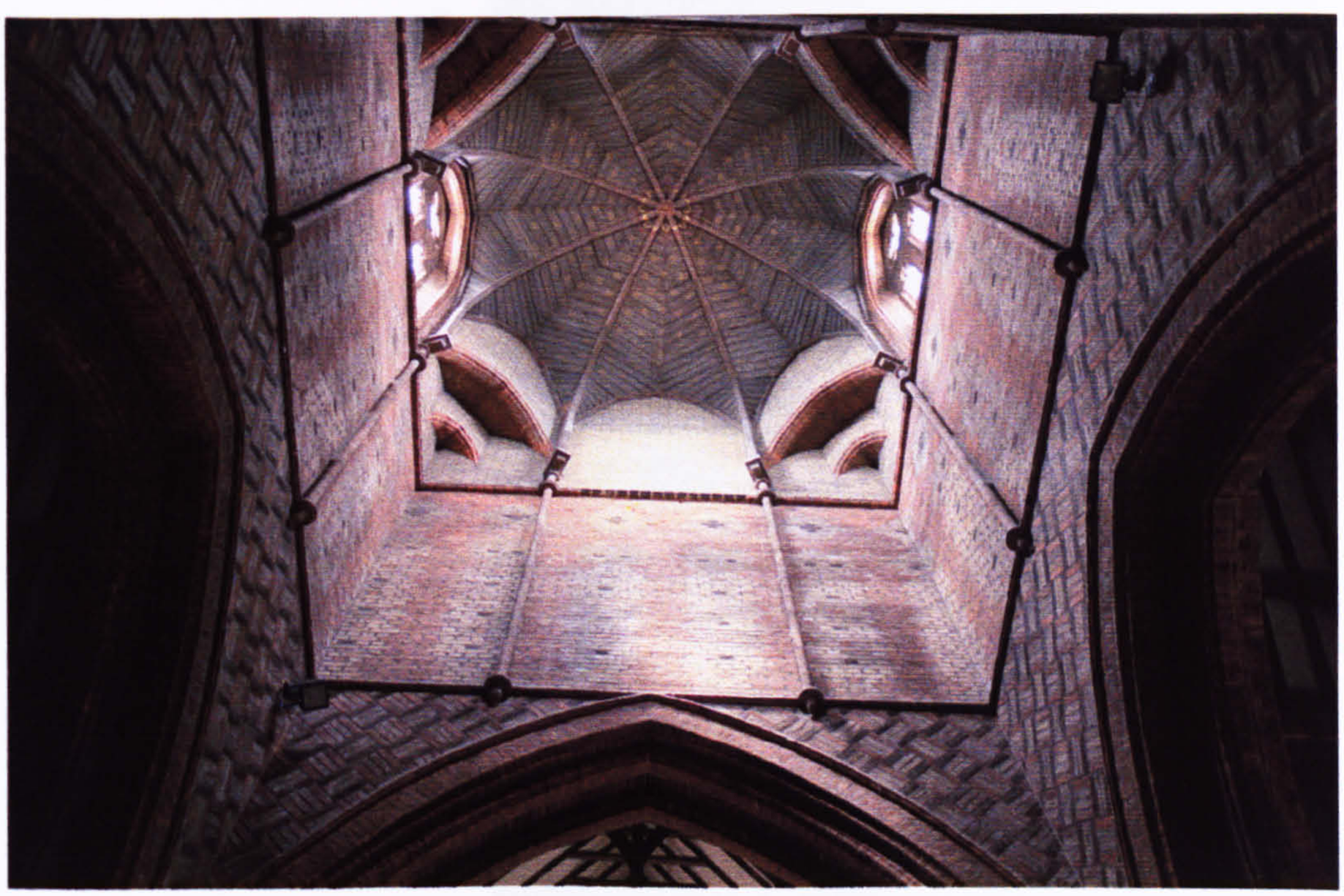

Fig. VI.51 St Saviour's Church, Aberdeen Park, Highbury, London: view into tower at crossing

Fig. VI.52 St Saviour's Church, Aberdeen Park, Highbury, London: triforium on north side of chancel

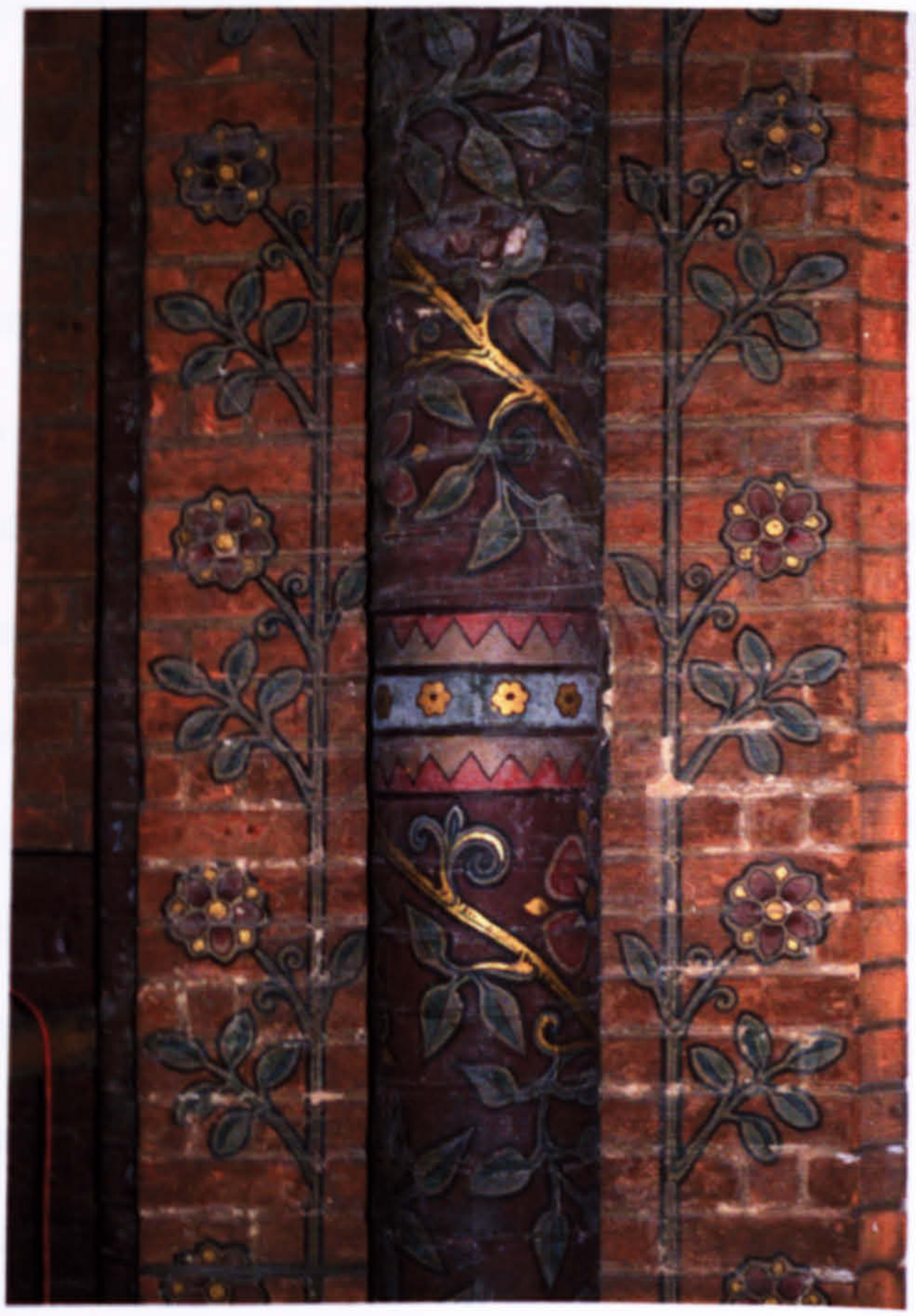

Fig.VI.53 St Saviour's Church, Aberdeen Park, Highbury, London: decoration to engaged column in chancel

CHAPTER VII

The reign of polychromatic terror

By the end of the 1850s a rising generation of architects had become alive to the opportunities which structural polychromy offered for development of the Gothic Revival style. The ideas emanating from Ruskin's written works had spread and influenced the designs of several notable buildings, of which Deane and Woodward's Oxford University Museum and Prichard's Ettington Park are two examples. Prime instances of ecclesiastical buildings, which demonstrated the ways in which brick and tile could be used for decorative effect, such as All Saints, Margaret Street, All Saints, Boyne Hill, and St Michael's, Lyndhurst, were either complete or nearing completion at this time. One of the attractions of structural polychromy apparent to contemporary architects was that it provided opportunities for individuality of expression and this encouraged them to experiment with the technique. It is not difficult to appreciate that one of the incentives for experiment came from a desire to produce designs which would attract attention and thus gain publicity, not just for the building owner but also of course for the architect himself. If he had this ambition the architect was well served by the flourishing architectural and building press. With an increase in prosperity in the country and greater literacy came a greater demand for journals of all kinds. It was not only the professional building journals, such as *The Builder* and *The Building News* which were quick to appreciate that new building projects were always more likely to be a source of interest to their readership if they displayed originality in some form: they were also a constant topic of interest to the readers of less specialised journals such as *The British Almanac* and *The Athenaeum.* Improved techniques for the production and printing of illustrations, even though they were only in monochrome, meant that the illustrated journals were of particular importance in aiding this interest. The knowledge

that a proposed building might be published in one of these journals was therefore a powerful incentive for architects to produce designs which might 'catch the eye'.

It is in the context of this more adventurous and entrepreneurial climate therefore that this chapter considers the development and practice of structural polychromy during the 1860s and its immediate consequences. During this period religious and non-religious buildings alike provided fertile grounds for development and there was of course much cross-pollination of ideas between the two. For churches, however, structural polychromy was to become enmeshed in the arguments which were taking place around this time concerning its place in church liturgy and for that reason it will be discussed separately from the non-religious sector.

Religious buildings

As structural polychromy became a more widely used form of construction it ceased to be associated in the minds of the Evangelical clergy with Tractarian liturgy and as a result they were prepared to accept designs from their architects which featured its use. One of the first to do so was Samuel Sanders Teulon (1812-1873), an English architect from a family of French Huguenot descent, and a convinced Christian of Evangelical persuasion.[1] Teulon's early training as an architect was somewhat unconventional, in that after attending the Drawing School at the Royal Academy he spent several years working for two London builders rather than be apprenticed to architects. This experience may account for some of the character of his later work; a profound understanding of construction techniques and with the ways these could be exploited, offset by a certain lack of refinement in his design of detail. Like Street, Teulon was an enthusiastic traveller to the Continent and during 1841-42 he went on an extended tour of France, Belgium, Italy, Switzerland and Germany with a group of

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[1] SANDERS, MATTHEW (1993): 'S. S. Teulon' in TURNER, JANE, (ed.) *The Dictionary of Art*, Vol.30 (London: Grove) pp.533-4

architect colleagues. Clearly his travels provided him with new ideas, many of which he was later able to call on when he entered independent practice after his return. His early practice was largely established on the basis of his interest in the design of model estate cottages, and a complete village by him survives at the Huguenot settlement of Thorney, near Peterborough, where he provided more than a hundred buildings between 1843 and 1863. His work on estate cottages brought him a number of influential clients including Prince Albert and he was commissioned to provide several cottages on the Windsor estate in 1856.[2] His ability to produce imaginative designs within restricted budgets came to the notice of the church authorities before long and between 1854-55 one of the first of his church designs was built at Netherfield, East Sussex.[3] It is, however, at St. James, Leckhamstead, Berkshire, (1859-60) that we can find one of the few surviving examples of his use of constructional polychromy since a large number of his churches have unfortunately been demolished or substantially altered. By clever use of the volume of the church, using a steeply pitched roof, bringing light into the crossing through windows in the side walls of the crossing tower, and introducing a sanctuary much more shallow in depth than would appear, he was able to produce a village church of apparently generous proportions for a mere £1,745. In spite of his use of space and an impressive roof structure the church would seem very spartan without its use of constructional polychromy (Fig. VII.1). Great richness of effect is produced by introducing bold patterns of contrasting light buff, black and orange red bricks and Bath stone dressings against a light buff brick ground. For the chancel and crossing walls diamond diaper pattern is produced in orange red bricks, the chancel arch itself being formed of red, black and white voussoirs. Beyond the Bath stone East window

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[2] *Frogmore, the House and Gardens and the Royal Mausoleum* (2000) (London: Royal Collection, 2nd ed.) p.37. S. S. Teulon is believed to have also been responsible for the charming little tea-house of Queen Victoria on the Frogmore estate.

[3] HOWELL & SUTTON: p.95 The church is part of a group of buildings which include a school and schoolmaster's house.

dressings are outlined at the arch with the same colours but black is used to draw a stronger outline. The sturdy middle pointed arches of the nave arcade are carried by short square section columns, spurred on each face. Inside the arch the profile of the spur is carried around the archivolt of each arch, while at the spandrel it continues up as a pilaster to carry a stone corbel under the truss. These features are all emphasised strongly by the bold polychromy (Fig. VII.2). Circles of orange brick take up the spaces described by the arch, the pilaster and the wall plate (Fig. VII.3). It is evident that economy has put severe limits on the way Teulon used polychromy in order to achieve decorative effect, for instance the vitrified bricks are actually red bricks painted black and the apparently high quality black mastic jointing is in reality tuck pointing. The handling of the polychromy in the interior is a reminder, however, of the dangers inherent in Jones's principle that 'colour is used to assist in the development of form'.[4] Where colours are used to describe or enhance forms Jones considered it essential that the forms should please the eye and relate well with each other in the first place, but in this case it cannot be said to have happened. Two examples in the interior of St James's emphasise the truth of Owen Jones's principle. The junction between the chancel arch and its abutments was never a happy one but this impression is made much more apparent by the parti-colouring of the arch. Similarly, the relationship between the spandrel brick circles and the arches, wall plate and vertical orange pilaster above the column is uncomfortable and made worse by the colour contrasts. A further criticism concerns the general use of dark pointing for the joints of the brickwork. This seems to give unnecessary emphasis to the individual bricks occurring within panels of the same colour and in doing so it detracts from the overall polychrome patterning. At St Martin's, Fenny Stratford (Figs. VI.45 & 46), for instance, it will be seen that White did not draw attention to joints in this way. There the joints have been left neutral in colour

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[4] JONES: *Grammar*, Proposition 14

and do not confuse the polychrome patterning of the brickwork. In the nave arcade at St James's, Leckhampton, the ornamental treatment has a somewhat primitive quality about it. For Pevsner who described it as 'a 'hard' church and a wilful one in some features',[5] it was too much. The treatment of the exterior reminds one of William White's Christ Church, Hatherden, Hampshire, in its use of horizontal red brick bands and dressings for the overall flint walling. At St James's, however, there is no preparation for the visitor for the shock which lies within.

Shortly after construction work started on St James's Leckhampstead, a new church had been consecrated in Chelsea; the church of St Simon Zelotes.[6] Little is known about the early life of the architect of this building, Joseph Peacock (1821-1893), other than that he was apprenticed in Worthing and spent the first part of his career carrying out surveys for railway lines and several large estates around London.[7] It is not known therefore how he came to be commissioned for the design of St Simon. Today the mainly Kentish ragstone exterior looks curiously out of place flanked on one side by stuccoed villas in Moore Street and the red brick and terracotta mansion houses of the Cadogan Estate on the other (Fig. VII.4). The highly elaborate West gable wall rising to a little bell-turret above, is curiously reminiscent of English provincial Roman Catholic churches, and gives no more preparation for its interior than does St James's, Leckhampstead. In this regard neither of the two churches are concerned with that relationship between exterior and interior which was a preoccupation of White and Street. As with the outside, the inside of the church (Fig. VII.5) reinforces the feeling that this is a country church, rather than a town one located in a prosperous part of central London.

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[5] PEVSNER, N. (1966): *The Buildings of England: Berkshire* (Harmondsworth: Penguin) p.166

[6] St Simon Zelotes Church was consecrated by the Bishop of Carlisle on 21 March, 1859. The brief history of the church available for visitors remarks 'Why the Bishop of Carlisle and where "Zelotes" has come from is uncertain'.

In terms of style St Simon's is more of a hybrid than St James's. The nave arcades and chancel arch are of Bath stone and Middle-Pointed in form and proportion but there convention ends for all the flat surfaces are constructed of brick and ornamented with constructional polychromy. While it had reservations about the design of the church in general, *The Ecclesiologist* did at least approve of its use of brick polychromy:

> 'Altogether we fear that this building will be no gain to art. There is a certain skill shown in the management of the details of the style; and a marvellous improvement on the old manner of church building is to be seen in the good stone construction and the internal polychromatic brick walling....'.[8]

The part which structural polychromy can play in revealing ideas about the nature of masonry construction is a topic which has been previously discussed in the context of Butterfield's, Street's and White's buildings. Here at St Simon Zelote's there are indications to suggest that polychromy has not had the same degree of thought put into it and in various ways this shows. In the chancel, for instance, (Fig. VII. 5) diaper is spread evenly over the wall surface between underside of canopy and top of the panelling which flanks the reredos, obviously with the intention of giving enrichment to the sanctuary. This contrasts notably with All Saints, Babbacombe, or St Martin's, Fenny Stratford, where in each case the walling above the arch of the east window is treated differently to the walling which flanks it (Figs. VI.4 and 44). Elsewhere, Peacock has adhered to the principle that 'colour is used to assist in the development of form' by using structural polychromy to follow the shapes of the arches and the spandrel openings into the transepts - however, with unfortunate results (Figs. VII 6 & 7). Clearly, the architect did not appreciate to what extent there would be conflict between the polychromatic brickwork and the corbels, nor how unforgiving the polychromy

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[7] ANON. (1893): 'Obituary of Joseph Peacock, Fellow', *Journal of the Royal Institute of Architects,* New Series IX, p.204

[8] *Ecclesiologist, The* (1858): Vol. XIX p.343

would be in drawing attention to forms which were already uncomfortable. These examples serve as a reminder that for structural polychromy to be successful if depends a great deal on the architect giving adequate thought to the building details in advance of construction: it is not something which can be left to last minute decisions with the builder while construction is well under way. In these two works we find examples therefore of building which employed structural polychromy as a decorative feature but not with the same clarity of thought which marks the work of Butterfield, Street and White.

Born in Sunderland in 1837 and trained in Leeds, Enoch Bassett Keeling (1837-1886) set up in practice in London in 1857,[9] recognising the opportunities which were open to a young architect, at a time when the suburbs around the capital were expanding quickly. Church work was highly desirable in that it could provide opportunities for establishing an architectural practice and he therefore submitted designs for several new churches which were being contemplated. His first success came early in 1862 when his designs for the church of St Paul, Stratford, London, were approved but this was quickly followed the same year by the award of a scheme for St Mark's church at Notting Hill, London. This church, consecrated by the Bishop of London in November, 1863 is no longer standing but it was of sufficient interest at the time to be illustrated in *The Building News*[10] and described in detail (Figs. VII.8 & 9).

> 'The building is of brick, with Bath stone dressings, the exterior being of picked stocks, relieved by bands of black brick, and the arches formed of black, blue Staffordshire and white bricks with Bath stone keys and springers, and the interior faced with Malm pickings, with black and red bands, and black, red and white arches with keys, corbels, campanile, chancel arch, window jambs, and other decorative features of Bath stone – the columns supporting the main principals and the arches to the chapel, on the south side of the chancel, are of polished Portugal marble... The columns supporting the clerestorey are of iron, and will have decorations on the bell of the capitals of wrought iron, which

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[9] CURL, JAMES STEVENS (1973): *Victorian Architecture. Its Practical Aspects* (Newton Abbot: David & Charles) pp. 47 & 55

[10] *Building News, The* (1863): Vol. X (18 September) p.717

> together with the columns, will be illuminated in strong polychromatic decoration'.[11]

It is not possible to gauge the interior effect of the polychromatic paint on the iron columns and capitals from the black and white engravings but the discordant and strident appearance of the nave arcade may be appreciated a little from the illustrations. Tonal and colour contrasts between the black, red and white bricks, together with Bath stone have been used with maximum effect; across the extrados of the nave arches the intrados half is white, while the other half is black, creating a jagged rhythm.

At another of Keeling's churches, St George's, Campden Hill, Kensington, built between 1864 and 1865, we are able to gain an impression of the effect produced by his use of brick polychromy because some of it has been recently restored (Fig. VII.10). Here we see that within the transept and sanctuary arches contrast takes place between the voussoirs of the inner and outer orders and on each occasion white is used it is contrasted with black. Black is also used to outline arches and used extensively for the pointing of the brickwork. These tricks of contrast, used extensively throughout the interior must have produced a strident and harsh effect, one which can be appreciated a little from the engraving published in *The Building News* (Fig. VII.11).[12]

Externally Keeling's use of constructional polychromy was much quieter. Black, red and white brick polychromy is used in the cloistered porch (Figs. VII.12 & 13) and on the arches of the clerestorey windows. For the West front itself and the tower a softer form of polychromy is used (Fig. VII.14), masonry generally being cream Bargate stone with pink Mansfield stone only being used for horizontal banding, voussoirs in the flying buttresses of the cloistered porch and for the sloping bands which follow the line of the tower staircase. Originally the slated spire had slates of

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[11] *Building News, The* (1863): Vol. X (18 September) p.716
[12] *Building News, The* (1864): Vol. XI (30 September) p.729

contrasting colours, as did the roof (Fig. VII.15) but the spire no longer exists and the roof slates are now of a single colour.

In giving a generally favourable review of St George's *The Building News* regarded it as one of the most successful attempts of the

> 'modern school of Eclectic Gothic, and although perhaps a little free in treatment evidences an appreciation of ... continental Gothic which is not too common'.[13]

It is difficult to visualize just how St George's interior must originally have appeared from the relatively small amount of structural polychromy which survives. We are, however, fortunate in having the *Building News* illustration and the description of its sister church, St Mark's, to help recreate in the mind how it must have looked. The evidence available suggests that Keeling had little true understanding of the part which colour could play in structural polychromy to create optical effects, nor was he interested in making use of colour to produce a feeling of repose. It has been observed in Chapter 6 that by its use of colours, particularly blue, red and yellow, structural polychromy can take advantage of optical effects so as to create an illusion of surface modelling through the effect of blue appearing to recede. In several of the examples considered a similar effect is provided by blue black bricks. The diaper above the windows of Keble College Chapel is a case in point (Fig. VI. 2). The chequers are made up of red and blue bricks together with slabs of Bath stone. The blue black scarcely reads while the stone slabs appear to advance. Keble, though, by using black bricks (probably painted black) in the arches, flanked by white and combined with rather hot red bricks, produced quite different optical effects. Instead of the black bricks seeming to retire, the eye is actually drawn to them. Keeling's objective seems to have been to maximise effect through contrast of tone rather than to create optical colour effects.

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[13] CURL JAMES STEVENS and SAMBROOK, J. (1973): 'E. Bassett Keeling Architect', *Architectural History*, Vol.16, pp.62-3 quoting *The Building News*

The characteristic that seems to be singularly lacking at St George's (or for that matter at St Mark's) is that elusive quality of repose, a quality for which architects like Owen Jones and William White were constantly striving. 'Repose' appears as a kind of 'Holy Grail' of the period; despite common agreement that this feeling should be created in a church, people differed as to the means by which this should be achieved. White touched on this subject during a talk entitled 'A Plea for Polychromy' which he gave at the Architectural Museum, South Kensington in 1861.[14]

> 'I am not pleading for the indiscriminate, inharmonious, strongly contrasted and fantastic colouring which the earnest advocates for polychromy are sometimes supposed to delight in, but for the deep, full, rich, harmonious luxuriance which has the power of exhilarating, whilst it soothes...'[15]

Although White was much more concerned with the practice of structural than of painted polychrome his talk seems to have been the signal for a challenge to be launched by 'A Member of the Oxford Architectural Society' (alias Rev. E.A. Freeman) on the excessive use of polychrome in churches, claiming that, 'We are entering on the "reign of polychromatic terror"...', and that 'a most serious charge against excessive polychrome is, that it is utterly wanting in the effect of repose'.[16]

An insensitive and restless use of colour of the sort demonstrated by Bassett Keeling at St George's and St Mark's certainly seems, then, to have contributed to a reaction against polychromy and a decline in its use in churches in the latter half of the 1860s but this can only be regarded as one of the factors. As Michael Hall has shown in his excellent and closely argued article 'What Do Victorian Churches Mean?',[17] the history of the development of the Gothic Revival style can only be properly understood if it is seen in the context of the shifting theological arguments and ecclesiastical politics which took place during the period. It follows that if structural polychromy was an

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[14] 'Plea for Polychromy', pp.50-55
[15] 'Plea for Polychromy', p.55
[16] ANON.(1861):'Natural Colour in Sacred Architecture', *The Ecclesiologist*, Vol. XXII, (11 February) p.69

important feature in the developed Gothic Revival it, too, must therefore be regarded against the theological background of events.

As Chapters 4 and 5 have shown the designs for churches of the early Gothic Revival were informed by antiquarian interests and kept strictly to the historical precedents of the early English Gothic styles. The arguments for the High Anglican Church to adopt styles of the pre-Reformation church were, however, as much theological as they were antiquarian, since by adopting the early Gothic styles they symbolised a link with doctrines which were part of the early teaching of the church. Newman and others argued, however, that it was inconsistent to insist on archaeological exactitude for church design in the present age since over the years the doctrines of the church had developed. This being the case it was reasonable, they pointed out, that the Gothic style itself should undergo development. E.A. Freeman (1823-1892), of the Oxford Architectural Society, articulated this new ideology in a paper entitled *Development of Roman and Gothic Architecture and their Moral and Symbolical Teaching*[18], published in 1845 and reviewed in *The Ecclesiologist*[19] by Beresford Hope the following year. The immediate practical effect of this shift in Tractarian policy had been to encourage architects to look to alternative stylistic precedents both chronologically and geographically, and it is in this context that we may see the visits to the Continent by Butterfield and Street.

During the next decade the High Anglican church had to cope with unprecedented challenges as a result of the veracity of the Bible being undermined by scientific writers such as Darwin and Huxley. The effect of this was not so much to encourage agnosticism but more to alter the nature of Christianity from a religion concerned primarily with the revelation of supernatural truth to one preoccupied with

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[17] HALL: pp.78-95

morals and ethics. It also led to an outlook, very much fostered by the writings of Ruskin, to look at the works of Nature as divinely inspired and created, an attitude which is reflected in *The Ecclesiologist* article 'Natural Colour in Sacred Architecture' by the statement:

> 'The *natural* stone must predominate, whatever the accessories may be, in order that we may feel, and in truth we *shall* feel, that the *edifice recalls to our minds* the Great Architect Himself. The works of nature remind us of the God of nature.'[20]

Michael Hall has observed:

> 'Science, scientific biblical criticism and Low Church principles suddenly seemed too closely implicated in High Victorian design for it to be tolerable any longer to a party in the church that saw rationalism and Protestantism as its chief enemies.'[21]

This attitude seems to have brought about a polarisation in the Anglican church between those who accepted Christianity as a moral and ethical system, a view which came to be associated with 'development', and those who held it to be a religion concerned with the revelation of supernatural truth. Since the Roman Catholic church continued to hold their own views on development this schism actually had the effect of encouraging some High Churchmen to convert to Roman Catholicism. In the case of G. Gilbert Scott (1839-97), for instance, the rejection of 'development' by the Anglican church reflected a view with which he could not agree and he was one of those who became a notable convert.[22] The abandonment of 'development', and its reaction against ideas of progress through time, led the High Church party and its architects such as Street and Bodley to seek a form of architecture which had a timeless quality about it, and in the pursuit of which colour and ornament played little part. As Hall has pointed out this outlook led to the gradual abandonment of both the decorative use of marble

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[18] FREEMAN, EDWARD (1845): *Development of Roman and Gothic Architecture and their Moral and Symbolical Teaching* (Oxford: J.H. Parker), pp.53-5
[19] *Ecclesiologist, The* (1846): Vol. V, pp.53-5
[20] *Ecclesiologist, The* (1861): Vol. XXII, p.68
[21] HALL: p.85

and other coloured stones and of naturalistic motifs in architectural sculpture. This, therefore, is one of the reasons why architects like Street, who had been prominent in the early development of structural polychromy increasingly turned away from it during the 1860s.

In those parishes which were not of the High Church faction, and increasingly in Non-Conformist churches, Gothic Revival architecture continued to develop throughout the 1860s and early 1870s, and structural polychromy continued to play an important part in this. However, during the later 1860s the more extreme aspects of development, as represented by Bassett Keeling's two churches, St George's, Campden Hill, and St Mark's, Notting Hill, began to attract criticism from leading members of the architectural profession and it was felt that structural polychromy was being wildly over exploited with the effect of it being vulgarised. In his book *Modern Parish Churches* J.T. Micklethwaite summed up the attitude which lay at the heart of this vulgarity.

> '...the most fruitful source of vulgarity is the quality which in office slang is called "go" - ..."Go" takes a wide variety of forms. It is not confined to any one style, but as the early French Gothic happens to afford more opportunities than any other, that style is most often selected by its votaries...The common symptoms of it in our churches are harshness, even to brutality, of general design, with studied ugliness and systematic exaggeration and distortion of details, stumpy banded pillars, stilted arches, a profusion of coarse carving, notches, zigzags, curves [which] baffle all description! "Go" is, in fact architectural rant, and may be defined as the perpetual forcing into notice of the personality of the architect.'[23]

Micklethwaite then turned his attention to the principal causes of this vulgarity:

> 'Next, after "go", nothing has caused so much vulgarity in recent church designs as the comparative cheapness and ease with which a great variety of materials may now be obtained. One may often see a small church, scantily furnished, yet overlaid with alabaster, and marbles, and granites, and mosaics, and painted tiles, more than enough to deck out a building ten times the size. A great variety of material is a very dangerous thing.'[24]

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[22] RIBA, Scott papers, SCGGJ/26a/2. Notebook 13, fol.70

[23] MICKLETHWAITE, J. T. (1874): *Modern Parish Churches* (London: Henry S. King) pp.264-5 (referenced hereafter as MICKLETHWAITE)

[24] MICKLETHWAITE: p.266

In spite of this criticism Micklethwaite still believed that colour, far from being a 'matter of indifference' was a most important factor in design:

> 'The colour of every portion of an interior, walls, ceilings, windows, pavements, and furniture, all require consideration, both of themselves, and with respect to one another. The colours of walls and ceilings may either be those of the materials of which they are formed or they may be painted. The former is, I think, best for all constructive features of stone, and the latter for plain wall spaces. But whatever is done, the aim should be to obtain a harmonious, and avoid a spotty effect, and therefore violent contrasts, such as the alternate bonding of columns, the mixing of blue and coloured bricks, in stripes or patterns, and such like favourite devices of the "go" school, should never be used.'[25]

In summary it can be said therefore that by the late 1860s and early 1870s the scene in regard to the use of structural polychromy in religious buildings was very different to that which had existed when St James the Less and St Michael's, Lyndhurst, were built. Butterfield apart, the later practitioners of structural polychromy showed little interest in it as a means of conveying ideas about the construction of the building. By this time also there was a reaction by High Anglican churchmen against a modern developed Gothic style which had come to embody a religious meaning no longer acceptable to them. Structural polychromy was a casualty since it was one of the main symptoms of 'developmental' architecture and liturgy. Finally, there was a reaction against this form of construction by members of the architectural profession who were responsible for church buildings, since it had increasing associations of vulgarity and commercialism, largely brought about by the excesses in design shown by architects of the "go" school.

Non-Religious Buildings

During the 1860s the forms of construction, involving structural polychromy, which had been part of the development of revived Gothic for religious buildings, were used for non-religious buildings as well. The kind of construction which Butterfield,

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[25] MICKLETHWAITE: pp.287-8

Street and White had introduced for vicarages and small church schools offered an inexpensive way of providing architectural interest to low budget buildings which might otherwise have appeared drab, and this set an example to others. Many a Victorian house in which the colour of the brickwork is changed to emphasize arches, cornices and other features owes its appearance to the ideas which had first been used in domestic buildings constructed for the church. But if this form of construction was beneficial for many domestic buildings, structural polychromy was also open to abuse in the hands of some designers, for it could be used as a way of making a building much more showy in appearance. White's concern that 'a profusion of ornament marks the decline of art'[26] was a sentiment which could equally apply to a profusion of colour. This was certainly also a concern of Owen Jones, for as early as 1851, when he explained his scheme for the decoration of the Great Exhibition Building to the Institute of British Architects, he remarked: 'Parti-colouring may become the most vulgar, as it may be the most beautiful of objects. It is necessary, therefore, to proceed with great caution.'[27] Jones was therefore also aware of the risks involved. In his competition entry for the Crimean Memorial Church, Constantinople (1856-57), William Burges had made use of constructional polychromy on the exterior of the building, but with few exceptions he avoided the use of external structural colouration from that time on.[28] Between 1864-5 the *Building News* published a series of lectures given by Burges entitled 'Art Applied to Industry',[29] later to be published as a booklet. In one of the later lectures Burges set out his objections to modern Gothic, commenting in regard to the use of colour:

> No one is satisfied unless the building presents a most piebald appearance; red

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[26] *Ecclesiologist, The* (1853): Vol. XIV, p.327
[27] *Athenaeum, The*: 21 December 1851, p.1348
[28] CROOK, J. MORDAUNT (1981): *William Burges and the High Victorian Dream* (London: John Murray) p.179
[29] ANON., (1864): 'Art Applied to Industry, a series of lectures', *The Building News*, Vol.XI, pp.118-9, 134, 154, 168, 182, 203, 224

> bricks, yellow bricks, black bricks...tiles. Constructional polychromy - and incised ornament - was most effective when used sparingly in constructive fashion.'[30]

This warning was not, however, heeded by all his contemporaries.

Keeling's ability to produce decorative buildings for the church within a tight budget came to the notice of developers who were planning in 1863 to construct a new music hall at the east end of the Strand where it meets the Aldwych, and he was engaged to produce designs. This apparently harmless foray into the commercial world was to prove a very mixed blessing for Keeling for, while he was recognised as an original and enterprising young architect, its obvious references to Gothic motifs, culled from the ecclesiastical world in which he had been working, brought him a great deal of adverse publicity.

In its polychromatic treatment of the façade fronting onto the Strand the building was not notably more ostentatious than many eclectic Gothic ones designed by contemporaries such as Waterhouse and Deane and Woodward, but within the music hall itself the decorations were extravagant and made elaborate use of coloured materials to produce an opulent-seeming but showy interior. As soon as it was opened in October 1864 the building attracted a great deal of interest and it became something of a 'cause célèbre' for its time. As early as November, 1863 *The Building News* had published illustrations of the Strand façade and the interior (Figs. VII.16 & 17) and gave a full description of it, pointing out that:

> 'The design, generally, is a rather daring attempt to adapt the Continental or modern eclectic Gothic feeling, or whatever better name can be found for it, to the purposes of a building, the objects of which, are to say the least of it, far removed from ecclesiastical.... There is no doubt it will afford much for critics to criticise'.[31]

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[30] BURGES, WILLIAM (1865): 'The Modern Development of Medieval Art', *Art Applied to Industry* (Oxford), p.113-14

[31] *Building News, The* (1863): Vol. X, (20 November) pp.868-71

At St Mark's and St George's there had already been some violent contrasts of colour and tone but this was compounded at the Strand Music Hall with its extravagant use of different materials; marble, patterned brickwork, Minton tiles and coloured glass. In addition to coloured materials it also used coloured lighting effects from the ceiling in much the same way that Owen Jones had made use of them at the Crystal Palace Bazaar.[32] *The Building News* described the Strand Music Hall in some detail:

> 'Above the columns supporting the boxes, and carried upon them, is a clerestorey, through which light will be obtained in the daytime; and above this is a ceiling. The ties of the roof are constructed to form hollow stiles, and other hollow stiles are made to intersect these, dividing the ceiling into panels which are glazed with tinted glass; this glass is flashed and bitten off in ornamental designs on the one side and ground upon the other. Into the hollow stiles are let prisms of glass, 18 inches by 3 inches alternating with slips of opal glass. The whole of the gas for the hall will be arranged above this ceiling, so as to produce a most gorgeous effect. Over every panel will be a corona of light, and along the hollow stiles above the prisms a wave line of gas. At the intersection of the stiles will be cut glass pendants, in which again the prismatic effect will be carried out. The whole of the ornamental portions will be strictly constructional, and every part decorated in unison'.[33]

Although not intended as a parody of recent developments in the Gothic Revival the Strand Music Hall was regarded as such and it produced an unprecedented number of reviews and notices in various newspapers and journals, those by the architectural profession being some of the most highly critical. Of all people, John Pollard Seddon was one of the architects who particularly reacted to it, no doubt because he was an active exponent of that 'developed' Gothic Revival style which Keeling now appeared to caricature. A week after the building was opened on 15 October, 1864 *The Building News* carried a leader entitled 'Acrobatic Gothic' written by Seddon, which hit out at the style of the building:

> 'the highest jinks and most comic capers that may hereafter be performed upon its stage or within its walls, cannot be otherwise than in harmony with those

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[32] See Chapter 2 of this thesis

[33] *Building News, The* (1863): Vol. X, (20 November) p.868-71

> which have been already played by [the architect] in actual stone, brick and iron'.[34]

Keeling replied to his critics through the pages of *The Building News* with wit and vigour but by this time it was clear the Strand Music Hall had acted as a catalyst in alarming contemporary architects about the direction which the new more licentious Gothic was taking them. Strong polychromy was one of the immediately identifiable characteristics associated with that direction and it was beginning to be discredited. George Gilbert Scott (1811-1878) voiced the concern felt by many when during the same year (1864) he wrote:

> 'There can be no question that a kind of chaotic state of things has ensued upon the dissolution of the "Middle Pointed" confederation. There has, in fact, been no end to the oddities introduced. Ruskinism, such as would make Ruskin's very hair stand on end; Butterfieldism, gone mad with its endless stripings of red and black bricks; architecture so French that a Frenchman would not know it, out Heroding Herod himself; Byzantine in all forms but those used by the Byzantians; mixtures of all or some of these; "original" varieties founded upon knowledge of old styles, or upon ignorance of them, as the case may be; violent strainings after a something very strange, and great successes in producing something very weak; attempts at beauty resulting in ugliness, and attempts at ugliness attended with unhoped-for success'.[35]

Six years earlier Gilbert Scott had expressed his views on the 'Architecture of the Future' observing that, whether it was based on a classic or Gothic nucleus, it would have to reflect 'the condition under which we have to work', and he was concerned that the effect of looking back at a panorama of the past was to:

> 'induce a capricious eclecticism - building now in this style, now in that - content to pluck the flowers of history without cultivating any of our own'.[36]

Eclecticism (or latitudiarianism, as it was also known) was a subject that was aired extensively through articles by Leslie Sutton in the 1858 numbers of the *Building*

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[34] *Building News, The* (1864): Vol. XI, (21 October) p.780

[35] SCOTT, GEORGE GILBERT (1879): *Personal and Professional Recollections* (London: Sampson, Low, Marston, Searle & Rivington). Facsimile edition with new material and critical introduction by Gavin Stamp (1995, Stamford: Paul Watkins) p.210

[36] SCOTT, GEORGE GILBERT. (1858): *Remarks on Secular and Domestic Architecture, present and future* (London: John Murray), p.265

News. The essence of Sutton's comment was that George Gilbert Scott's advice to find examples and seek inspiration in Italian Gothic work should not only be followed but extended even further. He foresaw an architecture in which elements from the most heterogeneous styles[37] could be assembled and that a new style would develop in the process. Inevitably this would take time however, and he believed it was necessary for the time being to accept eclectic designs made up of elements culled from different styles. In advocating this approach for an eclectic Gothic Sutton made it clear that those who designed in this idiom should do no more than seek inspiration from the works of the past, they were not just to be copied, and he believed:

> 'This absolute freedom is necessary for the successful adaptation of Gothic art to modern requirements, and also for its concordance with the progress of civilisations'.[38]

Sutton himself did not publish any designs in the architectural press but a design for the proposed Vestry-Hall for Chelsea (Fig. VII.18) by Henry and Sidney Godwin gives us some idea of what he had in mind. Even though the illustration which appeared in *The Builder*[39] is in black and white it is evident that colour was intended to play an important part in the highly eclectic design. The steeply pitched roof was to be covered with slates or tiles of different colours to create a patterned effect. The arches of Byzantine extraction were all to be parti-coloured and even the curious little conical truncated roof over the entrance porch was meant to be supported by small banded columns, presumably of contrasting colours.

R.J. Withers' Cardigan Town Hall and covered market of 1859 is a surviving building of the same period in which structural polychromy plays an important part in unifying the disparate parts of an eclectic design. It is curious that a London architect who was anxious to exploit this latest fashion for eclecticism should be employed to

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[37] BROOKS: p.193
[38] SUTTON, L. (1858): 'Eclectic Gothic', *The Building News*, Vol. IV, (29 January), p.99

design a building so remote from the capital but at this time West Wales was receiving considerable investment as a result of the railway system being extended to the west coast and Cardigan, being near the ferry point to Ireland, was one of those towns poised to reap benefits from the new prosperity. Withers had already been responsible for a number of small churches in the vicinity when he received the commission to design the Town Hall.

In spite of its remoteness the building nevertheless attracted attention for it was illustrated in *The Building News* (1859).[40] The building was an enterprising venture for its time, being an unusual example of a building conceived as a multi-use complex from the outset. It comprised the Town Hall, a school and a covered market (Fig. VII.19). Constructed in the main of the local purplish stone, a dark and rather gloomy material which looks even more forbidding after rain, Withers introduced constructional polychromy as a means of giving life to the building, emphasising the openings in the wall mass and providing a horizontal balance with the vertical elements of the design. It also had the effect of giving some kind of unity to its disparate parts. At the front of the building (Fig. VII.20) the ground floor arcade is formed of arches with a distinctly Byzantine flavour, springing from massive capitals on stumpy square columns. The arches are treated in an exaggerated fashion with massive blocks of stone (now painted white) interspersed with red brick voussoirs, inlaid with black brick and spurred into an outer order of black bricks (Fig. VII.21). Above and below, the stonework is banded with courses of red brick, although the stone panels beneath the arch windows are not given this treatment. At the rear of the building the arches are again exaggerated with alternating massive voussoirs of black and white, and an outer order of red brick (Fig. VII.22). The whole effect is strangely exotic for Cardigan.

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[39] *Builder, The* (1858): Vol. XVI, (December 18), p.851
[40] *Building News, The* (1859): Vol.VI, (September 16), p.841

Like Withers, Prichard and Seddon were very actively engaged in producing new designs for churches and parsonages in Wales at this time and just in the way that turrets, flêches, steeply pitched roofs and tall chimneys became part of their architectural vocabulary, so was constructional polychromy exploited to contribute to the feeling of picturesqueness and fantasy. In their hands[41] the design of a small school (Fig. VII.23) could be manipulated so that it seemed more like a French nobleman's hunting lodge than an educational establishment. This desire for the exotic contrasts sharply, for instance, with Street's modest village school at Inkpen, Berkshire, built less than ten years before.

It has already been noted in Chapter 6 that, following the lifting of the brick tax in 1850, manufacturers had greatly increased the range of brick types and colours available so that designers were offered a much wider choice. A design by Prichard and Seddon in 1857 for a new Post Office in Cardiff, combined with shops and chambers above, and described in *The Building News* illustrates a growing interest in the use of coloured brickwork (Fig. VI.24).

> 'The elevation next Church Street is constructed in brickwork principally, with considerable polychromatic decoration.... The general body of the work is red, being of Bridgewater bricks. It is regretted now that local bricks were not used, the colour of which is a brighter orange red. The dark bands and voussoirs of the arches are of glazed maroon coloured brick, made specially for the purpose by the Poole Architectural Pottery Company, and the light bands and voussoirs are of white Poole bricks, unglazed, or Caen stone. The ground floor arches have also next these alternating voussoirs, and a ring of purplish black glazed Poole bricks, and above another alternating ring of straw-coloured glazed Poole bricks and green Bridgend stone. The lintel to the entrance to the chambers under the carved string is constructed of green Bridgend stone and Caen stone voussoirs alternately. The string course above the arcade is constructed of two courses of maroon bricks, having a cement bond between them coloured a rich brown, with the inscription "The General Post Office" in gold letters. Above are two courses of bricks set edgewise, alternately two red and two white, with one plain course of white over. The first floor windows are generally similarly treated, but have their tympanums filled in with alternate Caen and green Irish marble. The upper windows have segmental beads of white and maroon bricks. The cornice is a deep one, and is constructed much as the string course described above, but the

[41] P&D Dept., V&A, D.956-1896. Built 1856-57 Cardiff (Canton), Glamorgan. Now demolished

> frieze with Minton's chocolate tiles and Caen stone above the corbels. Above are white bricks and the spaces between red. A triple course of alternately white and red bricks set edgewise, and a moulded stone coping, surmounts the parapet. The chimneys are of the same character, and executed in brickwork of similar colours with stone caps'.[42]

It is difficult to imagine an architectural magazine today describing the colouring of such a modest building's façade in such detail!

By 1859-60 Prichard and Seddon, the architects of Ettington, had evolved a style of design for country houses which made extensive use of coloured bricks to produce exotic effects. For instance, proposals for Champion Wetton's house 'Joldwynds'[43] at Holmbury St Mary, Surrey, show a heavy band of diaper work running all round the house at ground floor window arch level and similar treatment to the tower at a higher level. Window and door arches are made to stand out sharply against the surrounding brick ground by outlining them with black bricks and additional emphasis was given to the contrast between white and red voussoirs by separating them with bands of black. A similar treatment was proposed by the same architects for an unidentified house of the same period (Fig. VII.25).[44] In this case the voussoirs of the window and door arches were notched as well as the extrados. In both these examples the architects further introduced polychromy into the roof materials with chevron and diaper patterns. *The Ecclesiologist* observed, in regard to Joldwynds,

> 'Some additions to a villa called Joldwynds in Surrey, made by Messrs Prichard and Seddon, seem to us to err from over-effort after the picturesque. They are in red brick bonded with black and cannot be defended from the charge of exaggeration'.[45]

E.W. Godwin complained in *The Building News*[46] that many architects were so emphasising applied decoration that the true designers of their buildings were the firms that manufactured coloured building materials. But *The Building News* itself could

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[42] *Building News, The* (1857): Vol. IV, (9 October), pp.1063-65
[43] P&D Dept., V&A, D.825-1896
[44] P&D Dept., V&A, D.0806-1896
[45] *The Ecclesiologist* (1860): Vol. XXI, p.326

carry a good deal of responsibility for popularising the use of coloured bricks. During 1864 it published five articles on brick architecture, with many examples of brick polychromy being illustrated. In 1865 it reported a paper read to the Royal Institute of British Architects entitled 'A few suggestions on the introduction of coloured bricks, etc in elevations'.[47] In fact, this was principally a cautionary talk for the speaker warned that the prevailing craze for introducing coloured bricks and tiles in new buildings was destroying the unity of street or square architecture:

> 'our streets and squares are literally striped with every conceivable tint that the painter's brush can give them, blacks and greys in endless variety alternate with whites, yellows and buffs, according to the fancy or finances of their occupiers, and by their prominence mutilate continuous designs as effectively as if they were actually broken and disconnected by difference in their design. If it be necessary for a building, or group of contiguous buildings to be coloured, the colour should be limited by the lives of their architecture'.[48]

J.P. Seddon, who attended this meeting, was reported as admitting to the difficulty of using colours in buildings, particularly in the use of bricks. Their use, he remarked, was generally satisfactory for warehouses and mills but it was difficult to use them successfully on smaller buildings such as villas.[49]

These perceived difficulties did not stand in the way of him continuing to use coloured bricks himself on residential developments, for which he was responsible. In the same year (1865) that Darbishire's'' paper had been delivered to the RIBA, Seddon became extensively involved in redevelopment schemes in Aberystwyth, Dyfed, Wales, at a time when that town was benefiting from the new railway line. Acting on behalf of a development company Seddon proposed, amongst other things, an imposing terrace of twenty-five five and six-storey villas on the sea front. At the time he made his proposals the sea frontage was occupied by a 'monotonous row of mediocre houses

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[46] GODWIN, E. W. (1865): 'Art Cliques', *The Building News*, Vol. VII, (13 October), p.707
[47] DARBISHIRE, H. (1865): Report of a Paper read at the Royal Institute of British Architects on 23 January, 1865, entitled 'A few suggestions on the introduction of coloured bricks, etc. in elevations', *The Building News*, Vol. XII, pp.66-7 (referenced hereafter as DARBISHIRE)
[48] DARBISHIRE: pp.66-7

covered with drab-washed cement',[50] and Seddon evidently felt that polychromy could be used to produce a bright and modern appearance for the new Victoria Terrace which he believed would enhance Aberystwyth's image as a fashionable new watering place.

> 'As Aberystwyth faces westward, the Parade is mostly in shade during the heat of the day but towards evening it catches the rays of the setting sun. I hope, therefore, that the effect of this terrace will be brilliant at a time of day when such can be tolerated'.[51]

Seddon's early design for a portion of Victoria Terrace (Fig. VII.26) shows an elevational treatment which combines vigorous brick polychromy with Gothic details, principally in the form of middle-pointed arches to the lower bay windows and to the dormer windows.

Contrast of colour is a most important feature of the design and it can be seen to operate in several different ways. Firstly the modelling of the façade is given emphasis by the contrasts of colours. The ground of red Cardiff bricks for the bottom two floors sets off the shape of the projecting bay which is executed in contrasting buff brickwork. At roof level the dormer, again in buff brick, stands out in shape and in colour against the slate roof. Then above that the chimney stacks, constructed of buff and red bricks, contrast with the roof slate.

At third floor level the windows are flush with the general façade but their rectangular shapes are made to stand out by introducing a diamond pattern diaper of red on buff between the windows. Polychromy is further used to draw attention to architectural detail: window arches are either emphasised by alternating the voussoir colours (red and yellow, or red and white) or by changing the colour of the outer order of the arch. Lastly, colour and pattern are used to provide an overall strong horizontality which binds the individual houses of the terrace together.

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[49] DARBISHIRE: pp.67

[50] DARBY, MICHAEL (1983): *John Pollard Seddon*, Catalogue of Architectural Drawings in the Victoria and Albert Museum, (London: V&A), p.34

This elaborate and bold solution proved to be too costly and a simpler treatment (Fig. VII.27) was finally used which omitted the arches on the bottom two floors while at the same time the bands of diaper work were greatly simplified. Even this treatment was to prove too pungent for twentieth-century taste so that today all the brick polychromy lies concealed beneath layers of cement paint (Fig. VII.28). Were it not for the two surviving chimney stacks we would be unaware of Victoria Terrace's original appearance (Fig. VII.29). It did, however, produce a legacy. In the surge of building which took place during the late 1860s and 1870s in Aberystwyth there developed a local style which made vestigial use of brick polychromy as a decorative feature. Many examples of villas from this period survive in good condition today (Fig. VII.30).

It is hardly surprising that the polychromy proposed by Seddon for Victoria Terrace should be of such a vigorous nature. Seddon was after all only responding to a prevalent mood of his time, characterised by H. Goodhart-Rendel in his article about the 1860s entitled 'Rogue Architects of the Victorian Era', as follows:

> 'These were the days, in costume, of the longest whiskers, the most spacious crinolines, and the biggest stripes and checks. Fashions in architecture were similarly exaggerated...Ruskin's theories, Butterfield's reforms, and Street's sketching holidays, had thrown into the Gothic pot much strong seasoning....The dominant Gothic party insisted that architecture must above all be vigorous and in contemporary office slang the highest praise for a design was to say that it had "go"'.[52]
>
> But it was not just the architects who wanted to draw attention to their buildings.

There was commercial value in having a building which caught the eye of the public. Mercantile prosperity had steadily increased since the time of the Great Exhibition in 1851 and with it came a great demand for new office buildings in the principal centres of commerce like London, Birmingham, Manchester and Bristol, often to take the place

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[51] SEDDON, JOHN, P. (1871): 'On the University College of Wales and Other Buildings at or near Aberystwyth', *RIBA Transactions 1870-71*, (April 17), pp.148-55

[52] GOODHART-RENDEL, H. S. (1949): 'Rogue Architects of the Victorian Era', *Journal of the Royal Institute of British Architects*, Third Series, Vol. 56/6 (April) pp.255-256 (referenced hereafter as GOODHART-RENDEL)

of Georgian merchants' houses. In the crowded urban sites which these properties occupied it was essential that the frontages were well lit, particularly since the plan of the offices was often deep. It was found that the arcaded Venetian windows of the sort described by Ruskin in the *Stones of Venice* in his chapter on the 'wall-veil' provided an excellent solution to this problem, since the columns could be quite slender (sometimes in iron) and it was possible to have a frontage with far more glass than would be possible in a solid facade pierced with windows. The application of Pointed styles, particularly Italian, or more correctly Venetian Gothic, to commercial office buildings and warehouses came about largely for practical reasons. In the climate of 'GO' constructional polychromy went hand in hand with these eclectic Gothic facades to ensure that they were eye-catching for the public. And there was a further reason for ostentation: the use of expensive building materials, particularly coloured marbles, had the advantage of testifying to the commercial wealth and prosperity of a firm.

Three buildings which survive in the City of London well illustrate the varieties of approach which existed in this period.

George Somers Clarke's Ruskinian No. 7 Lothbury Street (Fig. VII.31), originally built for the General Credit Company in 1866, is of a Venetian Gothic style and has many references to *Stones of Venice.* The Tokenhouse Yard front (not in illustration) has square panels which are inlaid with coloured marble discs, sexfoil reliefs and bosses, and on the front to the church, square panels with inlaid discs appear. The big round arched portal with red and white surround and three orders of black marble columns was originally on the Tokenhouse Yard front but was moved to its present position between 1892 and 1919.[53] Nearby is T. Chatfield Clarke's 1869-70

[53] PEVSNER, NIKOLAUS and BRADLEY, S. (1997, new ed.): *The Buildings of England:The City of London* (London: Penguin) p.547

essay in Venetian Gothic at No. 5 Throgmorton Street (Fig. VII.32).[54] At first floor level the voussoirs to the arches of the window arcade are in alternating Portland and red Mansfield stone while the columns to the second and third floor window arcades are formed of a red marble. At ground floor the arcade columns are of red Aberdeen granite and at first floor the columns are of grey marble. These two buildings are representative of the more conservative continental inspired, commercial Gothic office buildings in which constructional polychromy was already playing an essential part of the architectural concept.

But there were always those who demanded something more sensational and at Nos. 33-35 Eastcheap we have a good surviving example of this later tendency (Fig. VII.33). The architect for this building, R.L. Roumieu (1814-1877), has been subsequently bracketed with E. Bassett Keeling and J. Peacock as one of those who 'did their best to debauch the Gothic Revival'.[55] Certainly, even before Nos. 33-35 Eastcheap, Roumieu had demonstrated at his French Gothic inspired church of St Mark, Broadwater Down, Tunbridge Wells, Kent (1864-66)[56] that, like Keeling, he was an architect committed to the introduction of a more vigorous form of Gothic.

Nos. 33-35 Eastcheap was built in 1868 as the London warehouse of a Worcester firm of vinegar makers. Even when it was designed it attracted attention for it was illustrated in *The Builder* (Fig. VII.34) and was described in some detail:[57]

> 'The style adopted by the architect, Mr R.L. Roumieu, is the Gothic of the South of France, with a Venetian impress; and the design, if a little overdone, may be considered picturesque and original. As the rooms were intended for offices in a narrow street in a city having a dull atmosphere, large openings for light became a necessity, and have been provided. In this composition a depth of shadow is obtained by the thickness of the walls, and the variety which the contrast of colour here introduced gives it affords all the relief in that respect required. The materials used are red and black brickwork, the arching being moulded bricks; the stone is from Tisbury – the same as that used in Salisbury Cathedral; and the

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[54] PEVSNER: *City of London*, p.607
[55] GOODHART-RENDEL: pp.255-6
[56] HOWELL & SUTTON: p.119
[57] *Builder, The* (1868): Vol. XXIV (10 October), pp.748-9

roof is covered with variegated slating'.

It is not recorded but it seems probable that a proportion of the building materials were self-coloured at the time of construction, if we are to compare *The Builder* illustration and the façade as it is today. Whatever the actual extent of colour used it was a key component in this very vigorous and eclectic composition. It was memorably described by Ian Nairn as 'demonic, an Edgar Allen Poe of a building. It is the scream that you wake on at the end of a nightmare!'[58]

Much of what concerned Street about the eclectic architecture which developed during the 1860s was that its ornament was no longer being used to express the underlying meaning of the construction of the building and instead was being added merely for show. In an essay entitled 'The Study of Foreign Gothic Architecture', published in 1866[59] Street gave clear expression to his belief in this need for honesty of construction:

> 'One great rule pervades all good architecture, viz: - that it must first of all be real and truthful in its construction, ornamentation, and arrangement...The aim of the student must be therefore in all cases to be very critical as to the extent to which this honesty was thorough in its application. Those Italian arches which required an iron tie to hold them together are examples of dishonest building; so in a less degree is the construction of ornament; the omission of members, which when they are seen, appear to be necessary; the erection of work merely for show...'[60]

By the time Street wrote this essay he was evidently suffering doubts about the viability of constructional polychromy as a way of expressing the 'constructive idea'. The Law Courts in the Strand, which was his largest and greatest work, might have provided him with a great opportunity for a display of constructional polychromy but it did not materialize. Instead, the form of polychromy which he adopted there was restricted to certain parts of the building and looked more to the structural colouration of

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[58] NAIRN, IAN (1966), *Nairn's London*, (Harmondsworth: Penguin) p.34

[59] STREET, G. E. (1866): 'The Study of Foreign Gothic Architecture and its Influence on English Art' in SHIPLEY, O., ed. *The Church and the World*, (London: Longmans, Green, Reader and Dyer), pp.397-411

Pisa or Siena, with its heavily banded effects, than to the intricate coloured detail of Venetian polychromy.[61]

By the time Street was preparing his design for the Law Courts there were major events taking place at South Kensington which were a further factor contributing to the gradual decline of High Victorian structural polychromy during the 1860s. In retrospect the 'South Kensington style' must be seen as quite an isolated phenomenon since its impact on the architecture of the period was quite limited and of comparatively short duration. The origins and development of the style have been discussed in some detail in Volume 38 of *The Survey of London* (The Museums Area of South Kensington and Westminster)[62] and in John Physick's *The Victoria and Albert Museum*,[63] so coverage of the subject only needs to be brief here. Some explanation of the style and the thinking which lay behind it is obviously necessary, however, to explain how it came to have an impact on the High Victorian school.

The opportunity to purchase two large sites in South Kensington, in order to develop a comprehensive centre of knowledge, was created in the first place by the considerable financial success of the Great Exhibition of 1851 and the profit which it secured. The principal site of these two is bounded by Kensington Gore to the north, Cromwell Road to the south, and spans east-west between the Exhibition Road and Queen's Gate. At first the greater part of this site was occupied by the gardens and arcades of the Royal Horticultural Society and it was not until 1862 that a major building was constructed on the site, the huge exhibition hall designed to accommodate a major international exhibition of art and industry. Today this same site is occupied by the Natural History Museum, the Science Museum, Imperial College and the Royal

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[60] STREET: 'Study of Foreign Gothic', pp.409-10
[61] CROOK, JOE MORDAUNT (1987): *The Dilemma of Style* (London: John Murray), p.90
[62] *The Survey of London: The Museums Area of South Kensington and Westminster*, Vol. 38 (London: Athlone Press) pp.77-96
[63] PHYSICK, J. (1982): *The Victoria and Albert Museum* (Oxford: Phaidon, Christies), pp.33-7, 47-58

Albert Hall, along with a quantity of residential property. The other site, fronting the Cromwell Road and lying to the east of the Exhibition Road, is occupied by the Victoria and Albert Museum (formerly the South Kensington Museum).

The 'South Kensington style' had its roots in the German *Rundbogenstil* (round-arched style), which had been inspired by the forms of Romanesque and Byzantine architecture as well as those of Renaissance Italy. This style had recently been much used in Germany by Heinrich Hübsch (1795-1863) in Baden Baden and Friedrich von Gärtner (1792-1847) in Bavaria, and it was probably introduced into England by the refugee German architect Gottfried Semper (1803-1879) during the time that he was employed by Henry Cole in the Department of Practical Art and while the first buildings for the South Kensington sites were being designed.[64]

In his capacity as President of the 1851 Exhibition Commissioner's estate, Prince Albert was able to exert considerable influence in determining the uses to which sites would be put and, significantly for this study, took a keen interest in the adoption of a style of architecture which would reflect the cultural intentions of the various buildings. Albert's personal sympathies seem to have lain with Classical styles of architecture and it is known, for instance, that when he made a visit to Munich in 1838 he had been impressed by Leo van Klenze's recently completed Neo-Classical Glyptothek.[65] This fondness for Neo-Classical architecture was matched, in painting, by an equally strong attachment to the works of Raphael, a taste which was undoubtedly encouraged by his court designer and artistic adviser from Dresden, Ludwig Grüner (1801-1882). As the writers of *The Survey of London* suggest it is likely, however, that the German alternative, a style which followed neither the Classical nor the Gothic

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[64] *Survey of London*, Vol. 38, p.76.

[65] HEDERER, O. (1964): *Leo von Klenze: Persönlichkeit und Werk* (Munich: Verlag Georg D.W. Callwey). Quoted in *Survey of London* Vol. 38, pp. 74-5.

fashion, would have appealed to Albert's non-sectarian temperament.[66] To judge by its design there are hints of this interest in developing a middle road of architecture at the Osborne house parish church of St Mildred at Whippingham, Isle of Wight, which the Prince designed in conjunction with A.J. Humbert (1822-77) and was built between 1854 and 1862. Ludwig Grüner's *Rundbogenstil* design (in collaboration with A.J. Humbert) for the Royal Mausoleum at Frogmore (1862-1871) was prompted by the Ducal Mausoleum at Coburg but this was itself based on sketches prepared by Prince Albert and his brother, indicating his attachment to a Germanic style of Romanesque. The exterior of the Frogmore mausoleum has been described as being inspired by Italian Romanesque buildings[67] but as Curl has remarked 'the Romanesque style of the building appears unequivocally Germanic, and is more related to a Berlin or Munich *Rundbogenstil* than to Italy.'[68] The internal Raphaelesque decorations, designed essentially by Grüner, were not completed until 1871. (Fig. VII. 35)

In his roles as secretary to the 1851 Estate Commissioners and head of the Department of Practical Art, Henry Cole was also a key figure in shaping the character of the new South Kensington buildings. But Cole was not a designer himself and in the very early stages of the development of the estate he relied on the advice and assistance of the three architects with whom he had worked at the time of the Crystal Palace – Matthew Digby Wyatt, Owen Jones and James Wild. The connection with Digby Wyatt and Jones was short-lived, however, for in 1852 they became the joint designers of the decoration for the re-erected Crystal Palace at Sydenham, opened in 1854, and withdrew from further involvement in the South Kensington project. It was at this stage that Cole

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[66] *Survey of London*, Vol. 38, p.76.
[67] *Frogmore, the House and Gardens and the Royal Mausoleum* (2000) London: Royal Collection, 2nd ed.), p. 40.
[68] CURL, JAMES STEVENS (1980) *A Celebration of Death* (London: Constable), pp. 196-7.

employed Gottfried Semper as his architect, but this was an association which only lasted three years, for in 1855 he returned to Germany.[69]

From 1856 the person who effectively took over from Semper as architect for the South Kensington complex was Captain Francis Fowke (1823-65), an army engineer who saw his role in a very different light to that of his predecessors. Fowke regarded his function more as that of a planning architect who might determine the plans, forms and structure of a building but who would otherwise rely on assistants to carry out the design of detail. This had the effect of producing a somewhat plain style of architecture in which the ornament was not conceived as being integral with the construction but as something which was to be produced independently and added subsequently by decoration and artistically designed detailing. Clearly this was an altogether different approach to that which had informed the architectural principles of High Victorian architects like Butterfield and Street.

Fowke's first proper essay in a recognisable South Kensington style was a new gallery, designed in 1856, to house the Sheepshanks collection of British paintings. This two-storey building, later to be absorbed into the Victoria and Albert Museum, still survives but was completely absorbed into later development and has therefore lost its identity. Externally the façade consisted of seven bays formed by load bearing brick piers, each of which contained a pair of window panels, separated by attached colonettes. These 'window' panels were terminated on the upper floor by round Italian Romanesque arches in red brick and filled with panels decorated with 'sgraffito'[70] a decorative mural technique which originated in Italy and had been introduced into Britain by Semper. The piers between the panels were faced with polychromatic brickwork 'disposed...with the general idea that the portions of the structure which bear

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[69] *Survey of London*, Vol. 38, p. 76.

the greatest weight should be pointed out by the darkest colour.'[71] *The Survey of London* indicates that this Butterfieldian treatment almost immediately gave way in further buildings at South Kensington to a uniform bright red brick.[72]

The Sheepshanks building acted as a prototype for the style and decorative techniques of many later buildings by Fowke and his successor Henry Scott at South Kensington and is important from that point of view. One very practical reason for such a facadist practice to be adopted at the Sheepshanks Gallery and subsequent South Kensington buildings is that it was dictated by the procedures for public funding.[73] It can be seen as a realistic response to the difficulty of securing funds on an annual basis from the Treasury for anything more than what amounted to basic floorspace in the first instance and a phased programme of fitting out to follow as funds permitted. (A scenario all too familiar today to anyone involved in the design and construction of large public buildings). As Cole's deputy Redgrave put it to a Parliamentary Select Committee 'our object is to fit [a building] for use, and then to decorate it afterwards.'[74] This entirely practical explanation for the facadist approach only partly explains the design policy of Fowke and Redgrave but it is of significance beyond the sphere of the South Kensington estate for it sheds light on the kind of difficulties which Street must have experienced at the Strand Law Courts and provides one of the reasons why he made comparatively little use of structural polychromy there. It is a reminder that, if structural polychromy is a part of the constructive idea of a building, thought needs to be given to its inclusion in the design well in advance of construction, and provision must therefore be made in the costing and budgeting for the building during the design stage.

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[70] 'Sgraffito' is achieved by applying first a dark layer of cement, then a thin grey layer; then while the cement is wet, lines were cut through the pale layer to expose the dark layer below. See PHYSICK: *The Victoria and Albert Museum*, p. 37.
[71] Cole Diaries: 31 July and 25 November 1856.
[72] *Survey of London*, Vol. 38, p. 101.
[73] *Survey of London* Vol. 38, p.101

A further implication of Fowke's and Redgrave's policy to apply ornament to the surface of the buildings after completion of their structure meant there was no longer the same necessity to employ an architect for this purpose: an artist or sculptor working with skilled craftsmen could do this instead. One individual who played an important part in determining the style of the ornament at South Kensington was the sculptor Alfred Stevens (1818-75). Before being brought in by Cole to head a team of designers for the decoration of the South Kensington Museum buildings, Stevens had been master of drawings and painting, ornament, geometrical drawing and modelling at the School of Design at Somerset House, and for a period the designer of cast-iron implements and ornament for the ironfounders Hook, of Sheffield. More significantly, though, Stevens had acquired an admiration for the figurative modelling of Michaelangelo during a lengthy period of training in Italy. This background led him to introduce an entirely different tradition of ornament to the abstract patterning which Owen Jones had been promoting at the School of Design and which informed Jones's own decorative designs for the interiors, for instance, of the Oriental Court at the South Kensington Museum (Figs. II. 22 & 24). As the writer in *The Survey of London* has pointed out, it was Stevens, together with his team of designers, who was primarily responsible for the successful blending of overtly Renaissance decoration with medievalist *Rundbogenstil* architecture.[75] On the north wall of the Huxley building (Fig. VII.36) we can still see a good example of this blending of the two styles, the *Rundbogenstil* structural arches picked out in bright red brick contrasted with the Renaissance-inspired ornament, in this case sgraffito work, in which there is little colour remaining. Elsewhere mosaic in bright colours was used as the decorative medium for similar situations. In this example we find a link with the ideas of progressive architects on the continent, in Germany

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[74] Parliamentary Papers XVI (1860): 'Report from the Select Committee on the South Kensington Museum', 13 July 1860, p.86, clause 1557

especially,[76] and an attempt to revitalise and keep alive the classical tradition. In a sense Owen Jones's proposition 14 that 'Colour is used to assist in the development of form and to distinguish objects or parts of objects one from another' is still valid but, because the form of the architectural elements are contrasted so strongly with the decorative elements, this principle no longer seems to serve the same purpose.

Conclusions

During the period which has been covered by this chapter, the late 1850s to the early 1870s, there was a considerable increase in prosperity in Britain and one of its effects was to produce a substantial increase in building activity throughout the country. This boom in the construction industry meant there was a surge in demand for building materials of all kinds. Up to the middle of the nineteenth century stone had always been the preferred material for churches and public buildings but the stone industry was ill equipped and poorly prepared to bring about a substantial increase in production, the methods of quarrying and distribution being slow and costly. By comparison, the brick and tile industries were in a much better position to cope with the situation. In 1850 the lifting of the brick tax had encouraged the manufacturers of bricks and tiles to develop new methods of mass production so that by the time the building boom came, the brickyards were much more able to cope with an increased demand than they would otherwise have been. As the brick manufacturers changed their production methods they also introduced new types of brick and new ranges of colours, so that architects were offered a much wider choice of material from which to choose when preparing their designs. The position of brick as the preferred building material was further enhanced by the expansion of the railway system around the country. This meant that

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[75] *Survey of London* Vol. 38, p.78

bricks could be distributed much more easily around the country and there was no longer the need for building materials to be supplied from sources in the same locality.

By the beginning of the 1860s an architect was much more likely, therefore, to conceive a design in terms of brick construction than he would have done in the early 1850s. But, further than this, he would also have had the advantage of being aware, through the example of buildings like All Saints, Margaret Street, and All Saints, Boyne Hill, that brick construction, and with it structural polychromy, was part of that process of 'development' which was being encouraged by the Anglican church, and which had, by reference to Continental Gothic models, helped the Gothic Revival to break out of the straightjacket of English Gothic antiquarianism. An architect would have realised that structural polychromy not only provided a way of providing permanent decoration for the interior or exterior of a building, but also that its flatness of construction was a way of keeping costs down. What is less clear, however, is the extent to which architects fully understood the theoretical content of Butterfield's, Street's and White's use of structural polychromy and the precise ways in which they intended that it should reveal the structure of the building. If we are to judge from the examples of St James's, Leckhampstead and St Simon Zelotes, the answer seems to be that this was an aspect of structural polychromy which was ignored by some.

The notion that the Gothic Revival could be developed and references made to Continental models was a forward thinking and imaginative initiative on the part of the Anglican church but in adopting a more liberal approach to 'development', there was always the possibility that in time this new freedom would be abused and lead to excess. A more extravagant and strident use of structural polychromy, which seems to have taken no account of Owen Jones's 'General Principles', and owed little to Street's ideas

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[76] Examples of such work at the Johanneum, Hamburg and von Gärtner's Munich work. See *Survey of London* Vol. 38, p.78

concerning truthfulness in construction, was a part of this excess. The designs of Bassett Keeling for St Mark's, Notting Hill, and St George's, Campden Hill, are therefore representative of this kind of development. This kind of excess, coupled with a departure from the original principles which had informed Butterfield's, Street's and White's work, contributed to the abandonment of structural polychromy by High Anglican church architects such as Street. In this context the architectural reasons are not easily disentangled from the theological ones.

As this chapter has indicated structural polychromy entered into the design vocabulary of non-religious (and particularly commercial buildings) mainly as a feature of eclectic versions of the Gothic Revival style. There is little or no evidence to suggest that the kind of principles which informed Butterfield, Street or White concerning the relationship between ornament and construction played much of a part in non-religious buildings. The motives for using constructional colour in some of the eclectic Gothic buildings of this period were, however, rather different to those which might have informed Butterfield or Street. In a building such as Cardigan Town Hall, for instance, the horizontal courses of brickwork were used to enliven the otherwise dour grey stonework and to hold together the various elements of the building (Fig. VII.21). Victoria Terrace, Aberystwyth, (Fig. VII.26) provides another example. There the red brick walling is intended to emphasise the form of the bay windows, while bands of patterned brickwork provide a strong horizontal emphasis for the group of terrace houses, and linked them together. A facade like that of the office building at No. 5, Throgmorton Street, (Fig. VII.32) might owe something to the *Stones of Venice* in its use of Venetian Gothic, but the motive for using colour seems to have more to do with providing an ostentatious front to the building than for the sake of following any architectural principle. What these examples reveal is that by 1870 polychromy was ceasing to be a field of architectural innovation and had entered into the common

parlance of architects and builders; something which they used in their work as a matter of course without there being any need to talk about it or to justify it.

For two very different reasons, one practical and one theoretical, the buildings at South Kensington provide further evidence of the ways in which attitudes concerning the use of structural polychromy were changing towards the end of the 1860s. Since the materials of structural polychromy were a part of the main structure of a building, rather than something added later, its use forced the architect to decide at an early stage where the building materials should change in colour and what those materials should be. The system by which general contractors were appointed to take responsibility for construction of the whole building also put demands upon the architect to provide the builder with full details of the building at the time a contract was signed. This system meant it was difficult to make savings while construction was under way if it was found there were insufficient funds to meet the construction costs. For a building such as a church, faced with the need to economize, this meant that a part of the building, perhaps the tower or spire, had to be omitted. For publicly funded buildings, such as those of the Crown Commissioner's estate at South Kensington, there could be uncertainty about funds being available for a prolonged construction programme, and it is for this reason Fowke and Redgrave adopted a policy of designing the structure of a building first and then decorating it afterwards, as and when funds became available. This problem of continuity in funding for a major public building project provides one explanation as to why Street made relatively little use of structural polychromy at the Strand Law Courts.

The separation of structure and ornament at the South Kensington buildings also had implications for many of the principles which had guided the use of architectural polychromy during the previous twenty years. Not only did the system reject the principles which had informed the practitioners of structural polychromy and those

concerning Ruskin's ideas about ornament, it was also at variance with certain key principles of Owen Jones. In particular it disregarded Jones's Proposition 5:

> 'Construction should be decorated. Decoration should never be purposely constructed.'

and Proposition 8:

> 'All ornament should be based upon a geometrical construction.'

The decoration of the buildings at South Kensington, based largely upon Italian Renaissance models, marked a shift away from that abstract pattern making which had helped to inform the structural polychromy of the High Victorian architects.

Fig. VII.1 St James's Church, Leckhampstead, Berks: interior view towards sanctuary

Fig. VII.2 St James's Church, Leckhampstead, Berks: detail of nave arcade

Fig. VII.3 St James's Church, Leckhampton, Berks: spur and spandrels to nave arcade

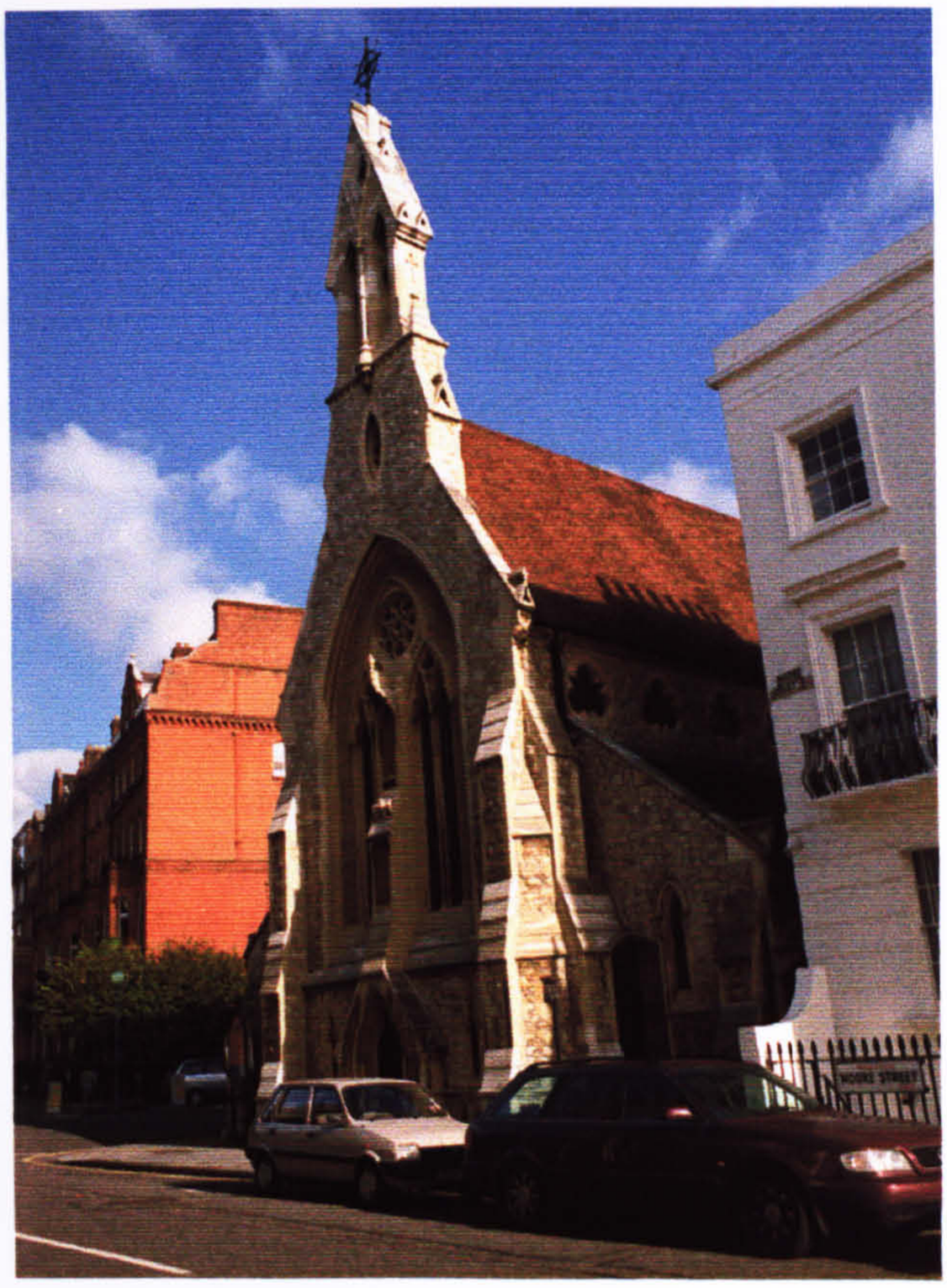


Fig. VII.4 St Simon's Zelotes Church, Chelsea, London: west front

Fig. VII.5 St Simon's Zelotes Church, Chelsea, London: interior view towards chancel

Fig. VII.6 St Simon's Zelotes Church, Chelsea, London: spandrel to nave arcade at transept

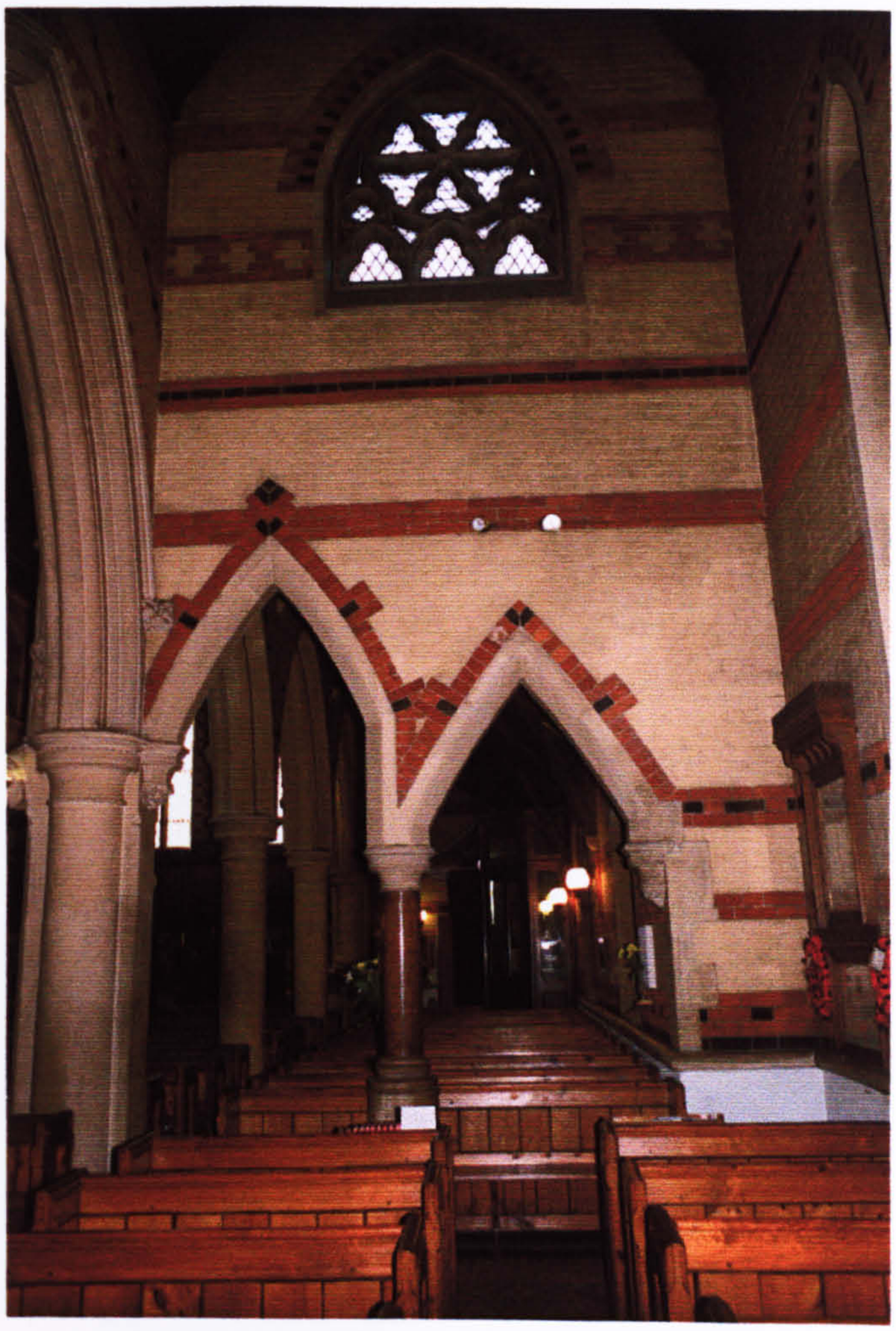


Fig. VII.7 St Simon's Zelotes Church, Chelsea, London: arches between north aisle and transept

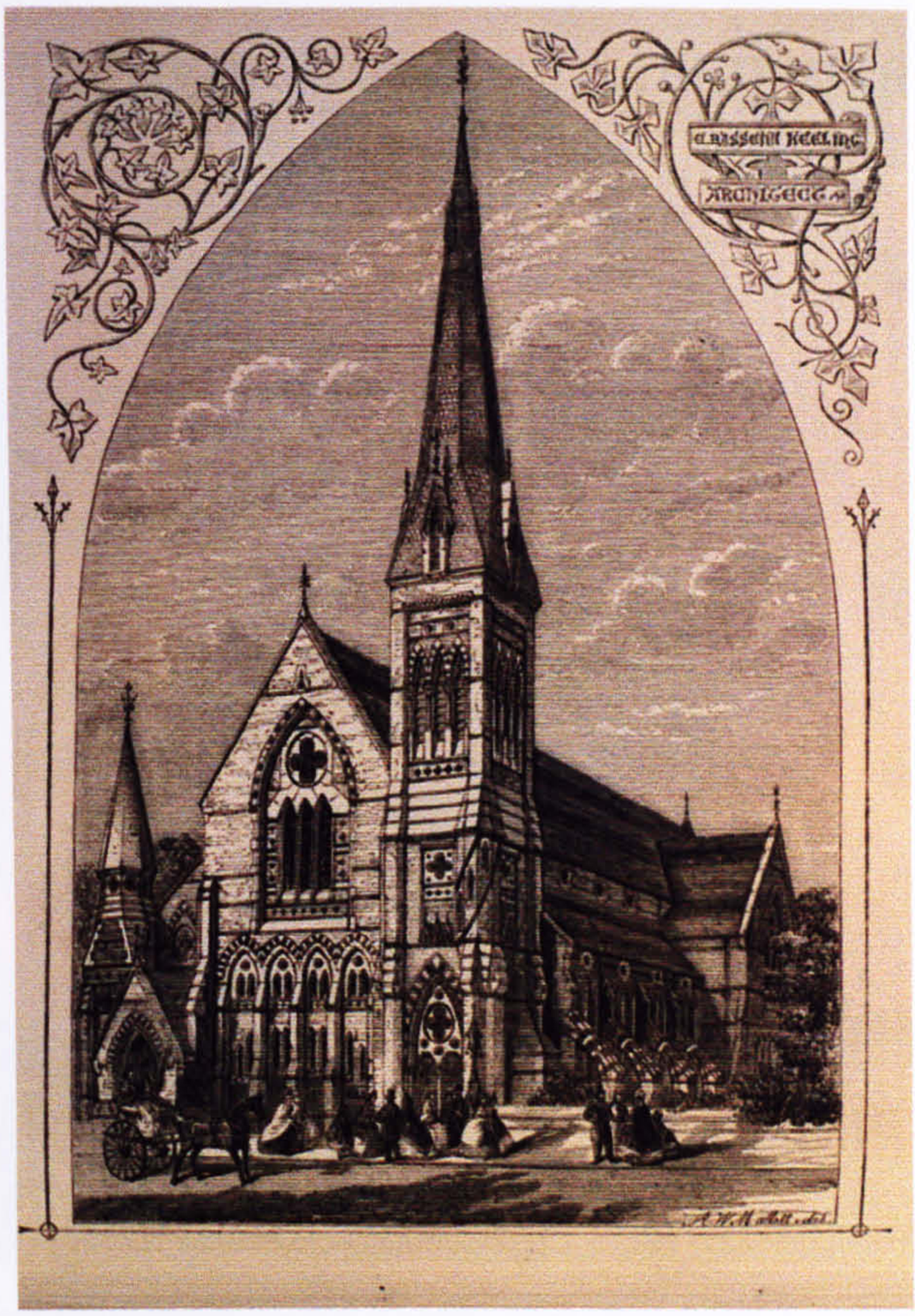


Fig.VII.8 Illustration of St Mark's Church, Notting Hill, London. *(The Building News)*

Fig. VII.9 Illustration of interior of St. Mark's Church, Notting Hill,London. *(The Building News)*

Fig. VII.10 St George's Church, Campden Hill, London: view of modernised interior

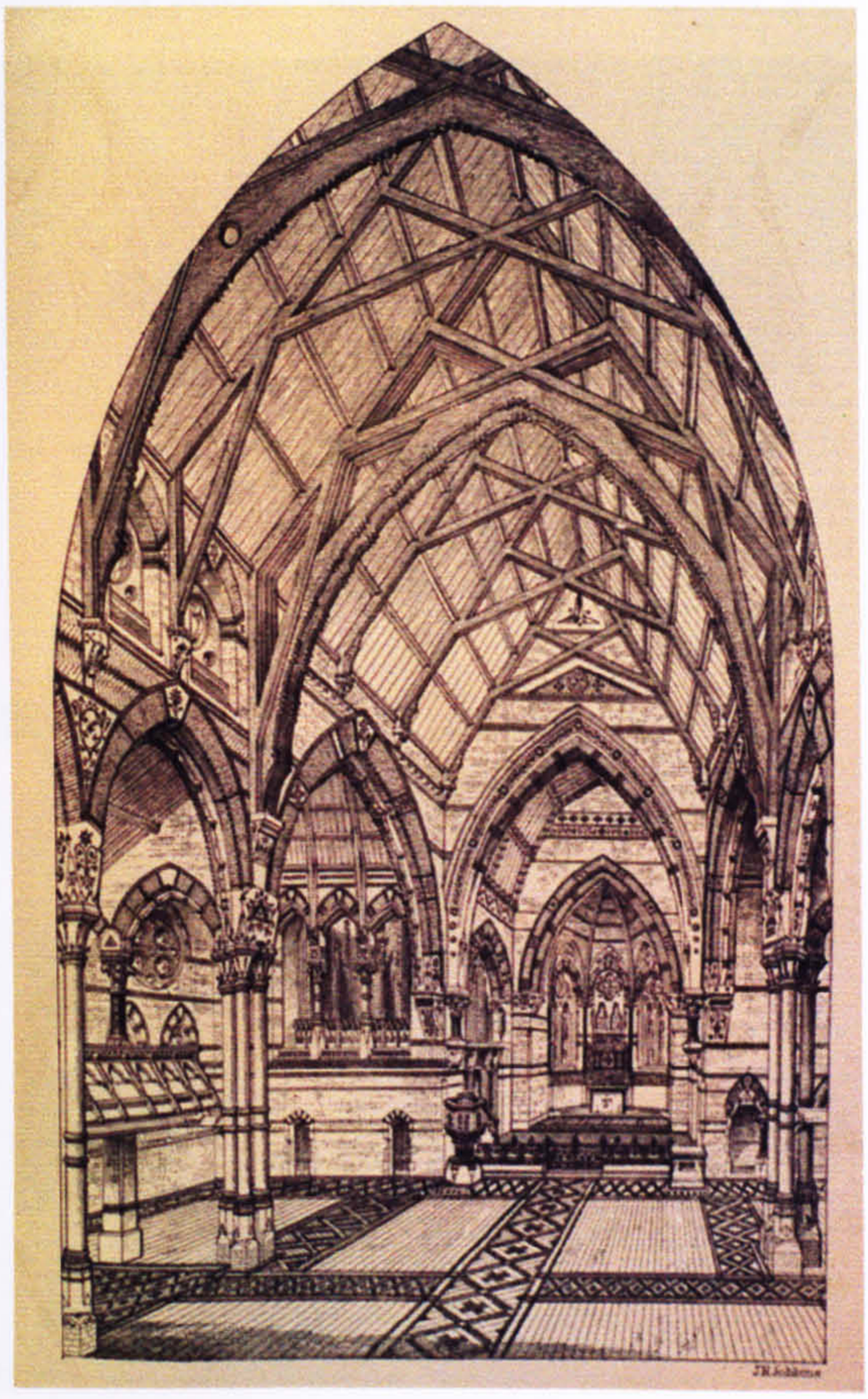


Fig.VII.11 Illustration of St George's Church, Campden Hill, London. *(The Building News)*

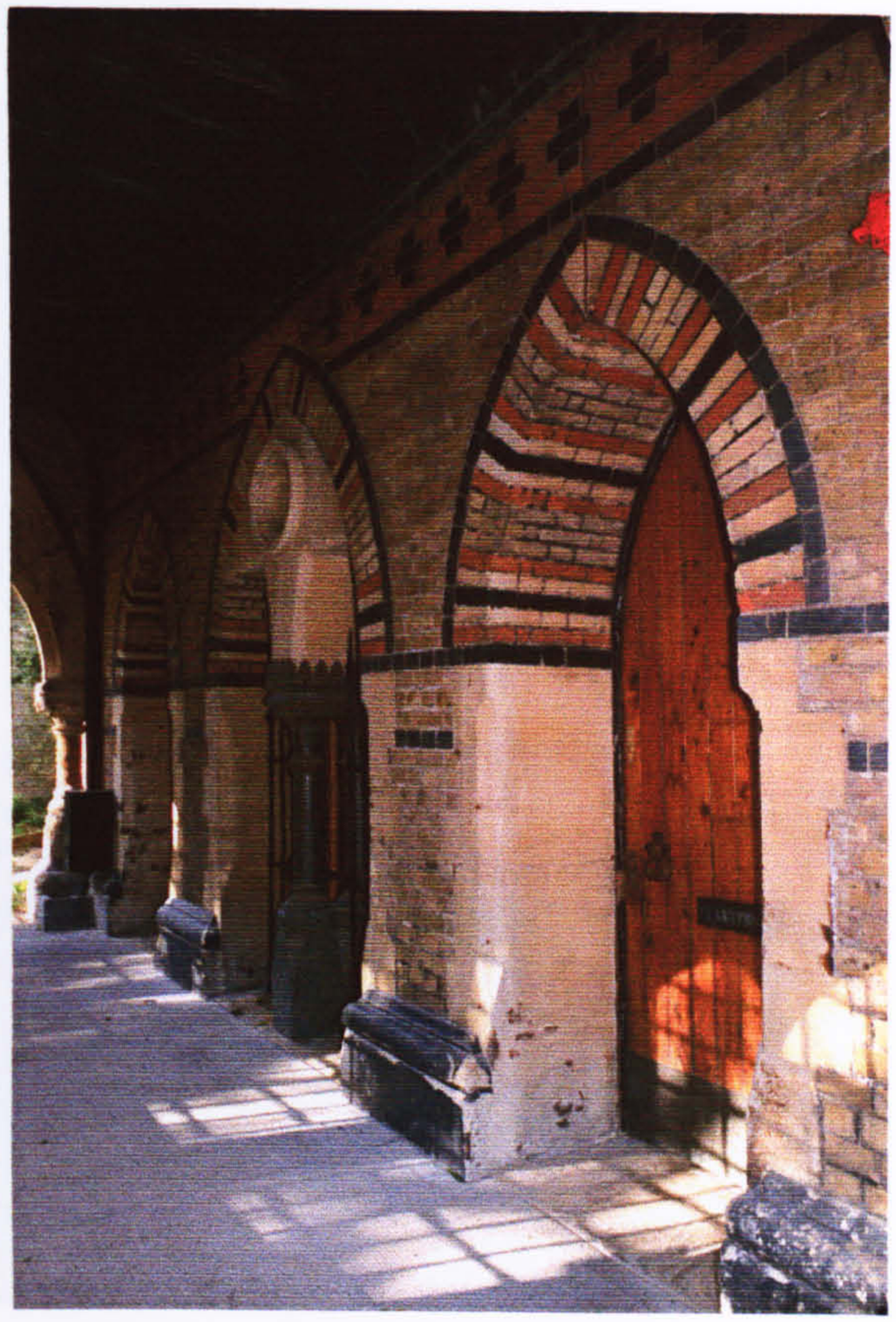


Fig.VII.12 St George's Church, Campden Hill, London: main entrance with cloistered porch

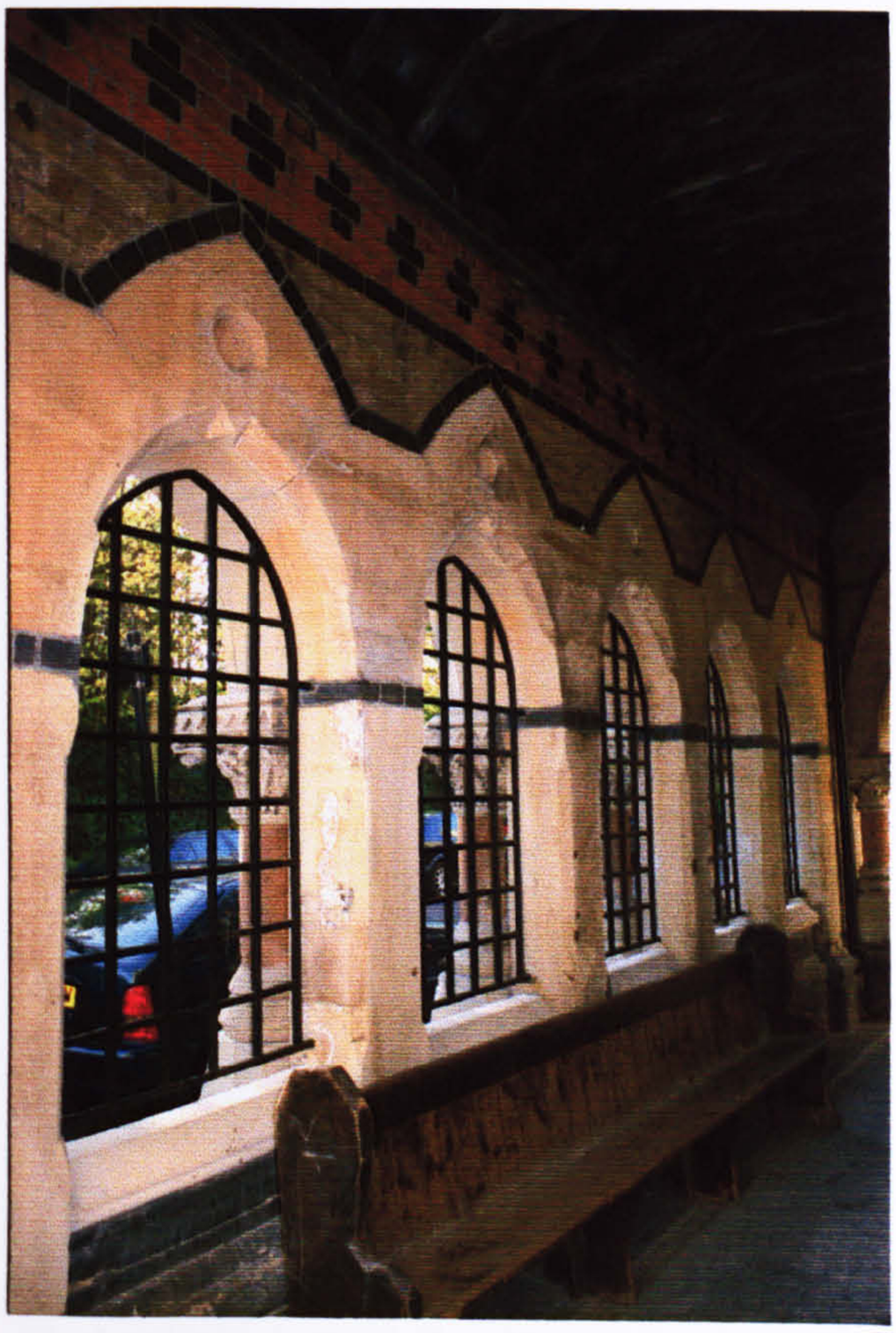


Fig. VII.13 St George's Church, Campden Hill, London: wall arcade to cloistered porch

Fig.VII.14 St George's Church, Campden Hill, London: frontage on Aubrey Walk

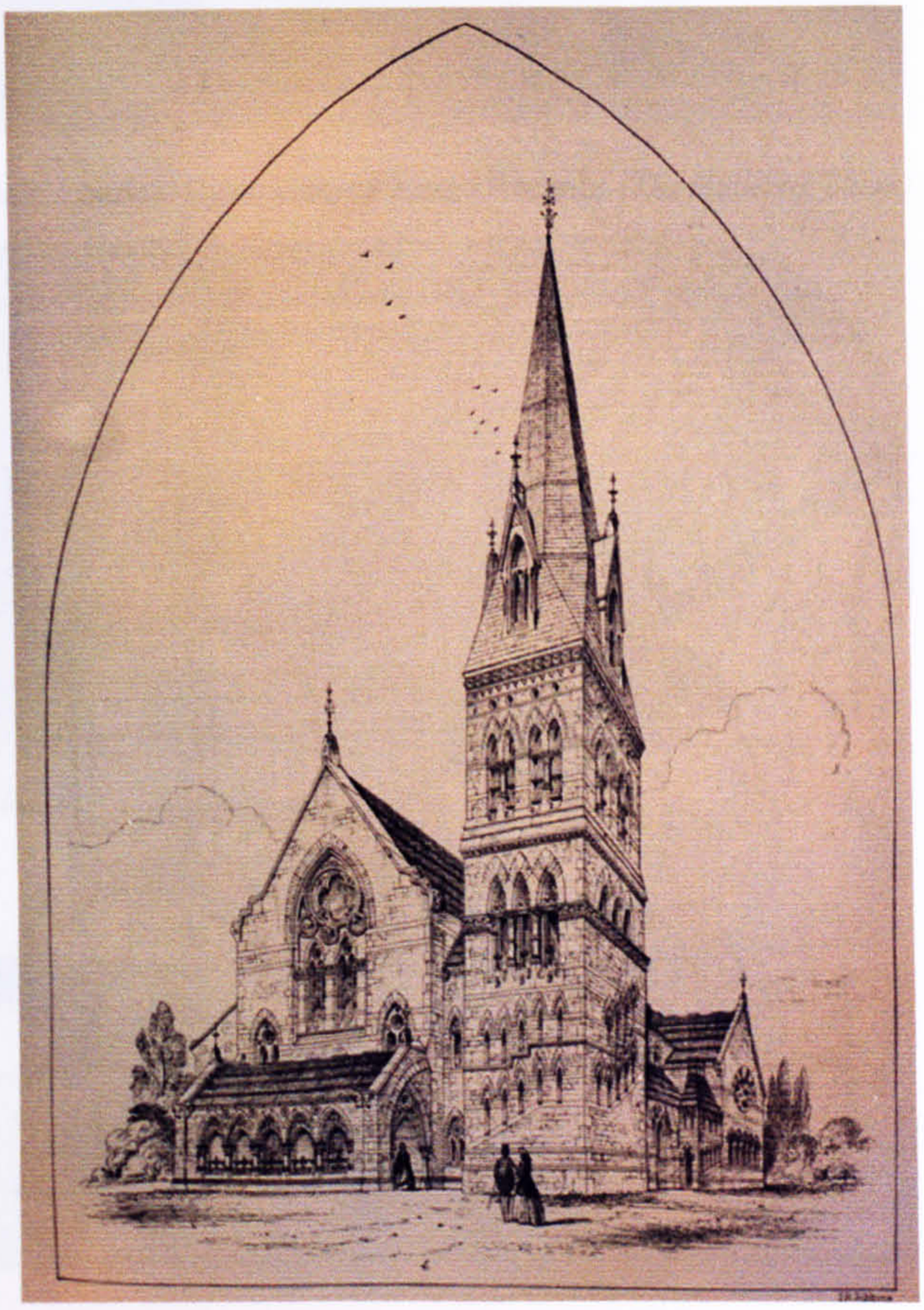


Fig.VII.14 Illustration of St George's Church, Campden Hill, London: *(The Building News)*

THE STRAND MUSIC HALL.—MR. E. BASSETT KEELING, ARCHITECT.

Fig. VII.16 The Strand Music Hall, London: illustration of Strand frontage *(The Building News)*

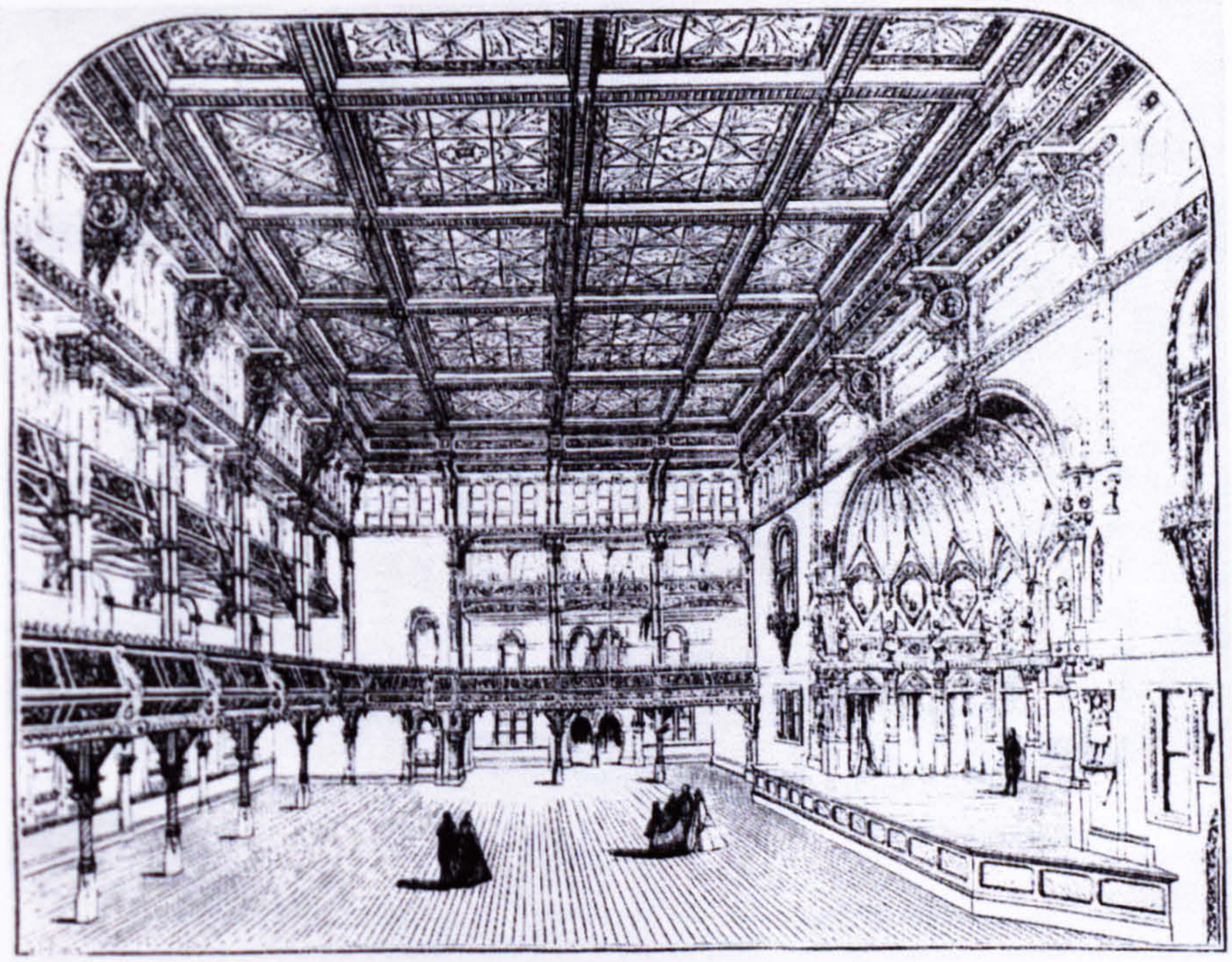
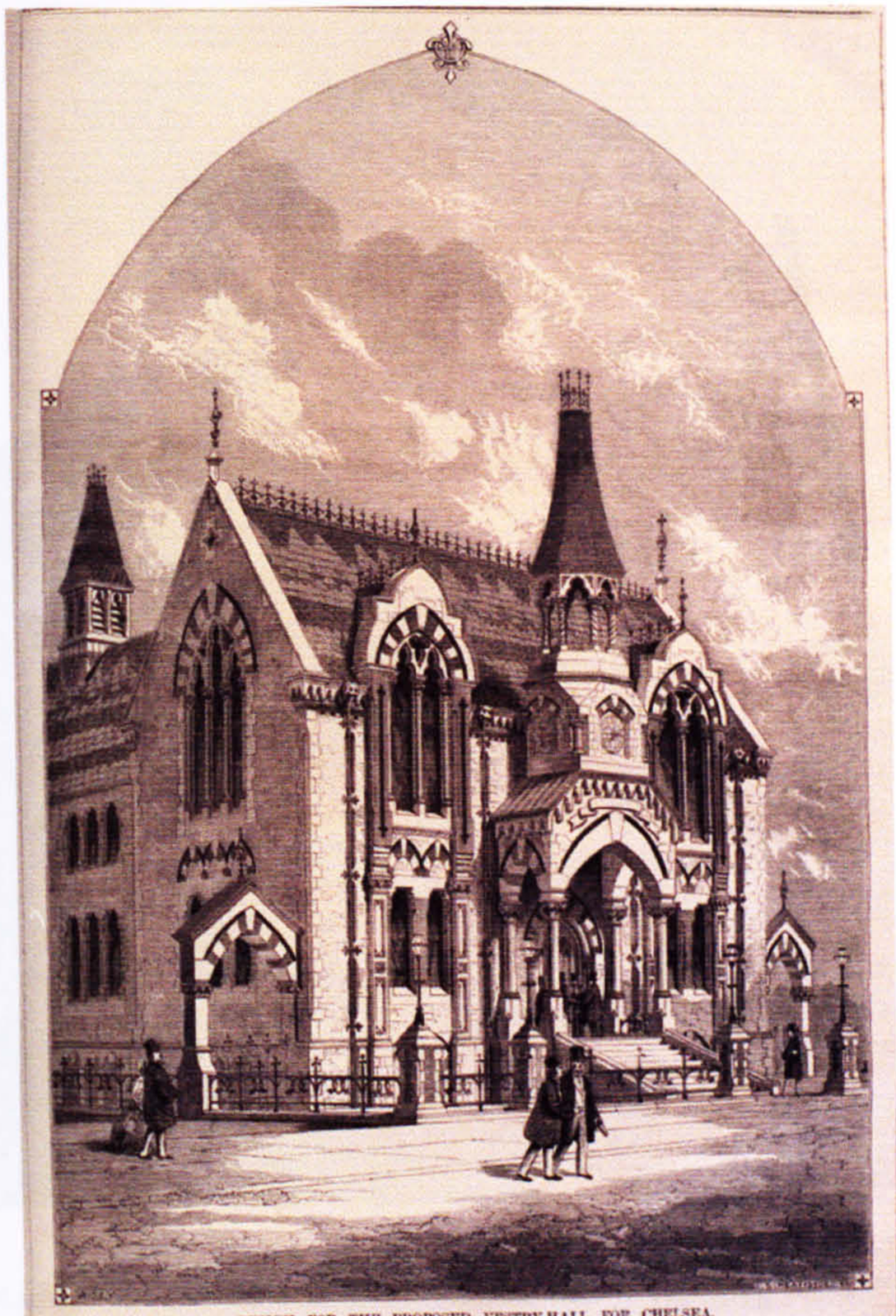


Fig. VII.17 The Strand Music Hall, London: illustration of the interior (The Building News)



A DESIGN FOR THE PROPOSED VESTRY-HALL FOR CHELSEA.
Mr. Henry Godwin and Mr. Sidney Godwin, Architects.

Fig. VII.18 Proposals for the Vestry Hall, Chelsea, London. *(The Builder)*

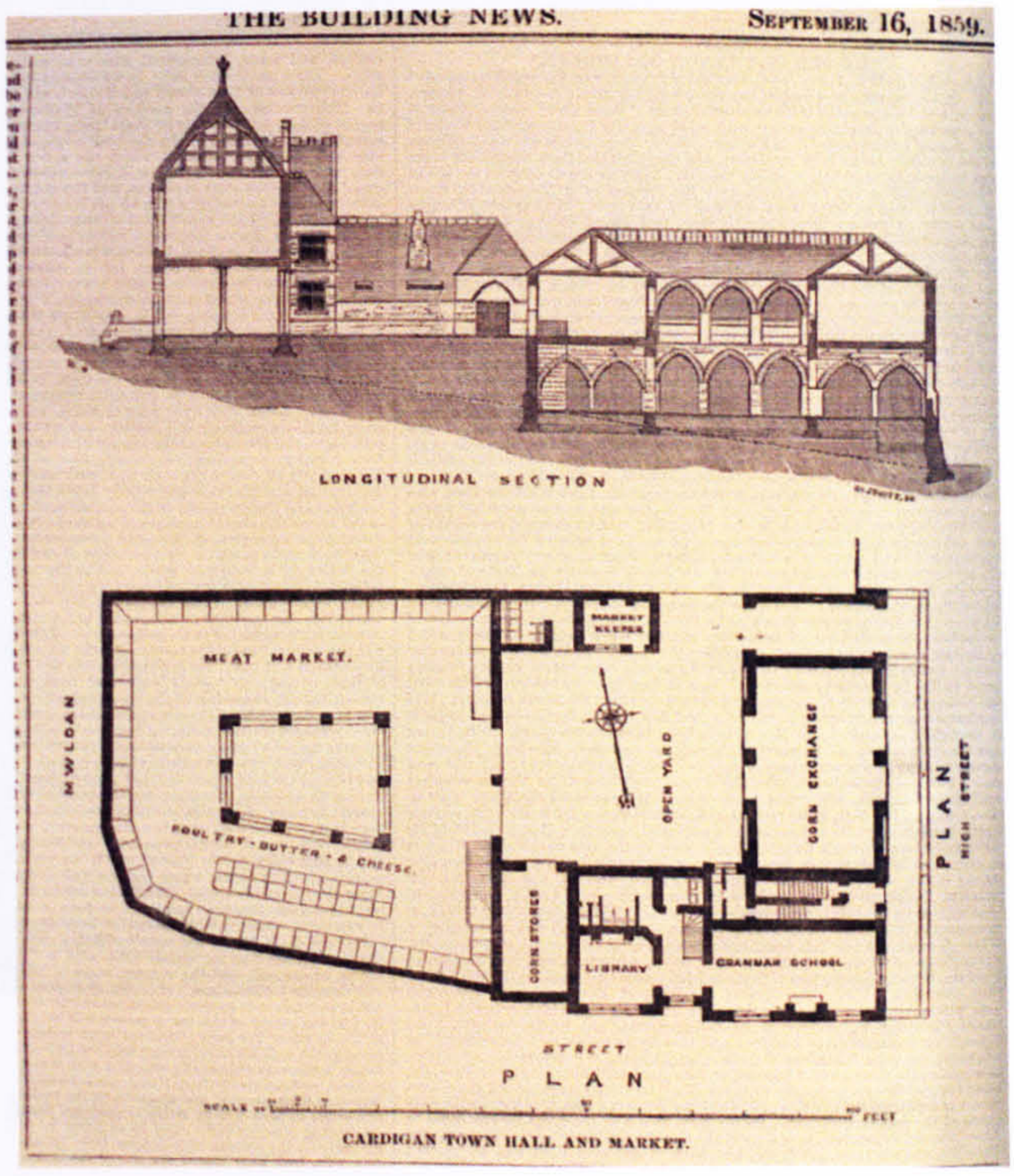


Fig.VII.19 Cardigan Town Hall and Market: published section and plan *(The Building News)*

Fig. VII.20 Cardigan Town Hall and Market: street front with town hall and school (in foreground)

Fig. VII.21 Cardigan Town Hall and Market: arches on street front (originally the corn exchange)

Fig. VII.22 Cardigan Town Hall and Market: exterior of market

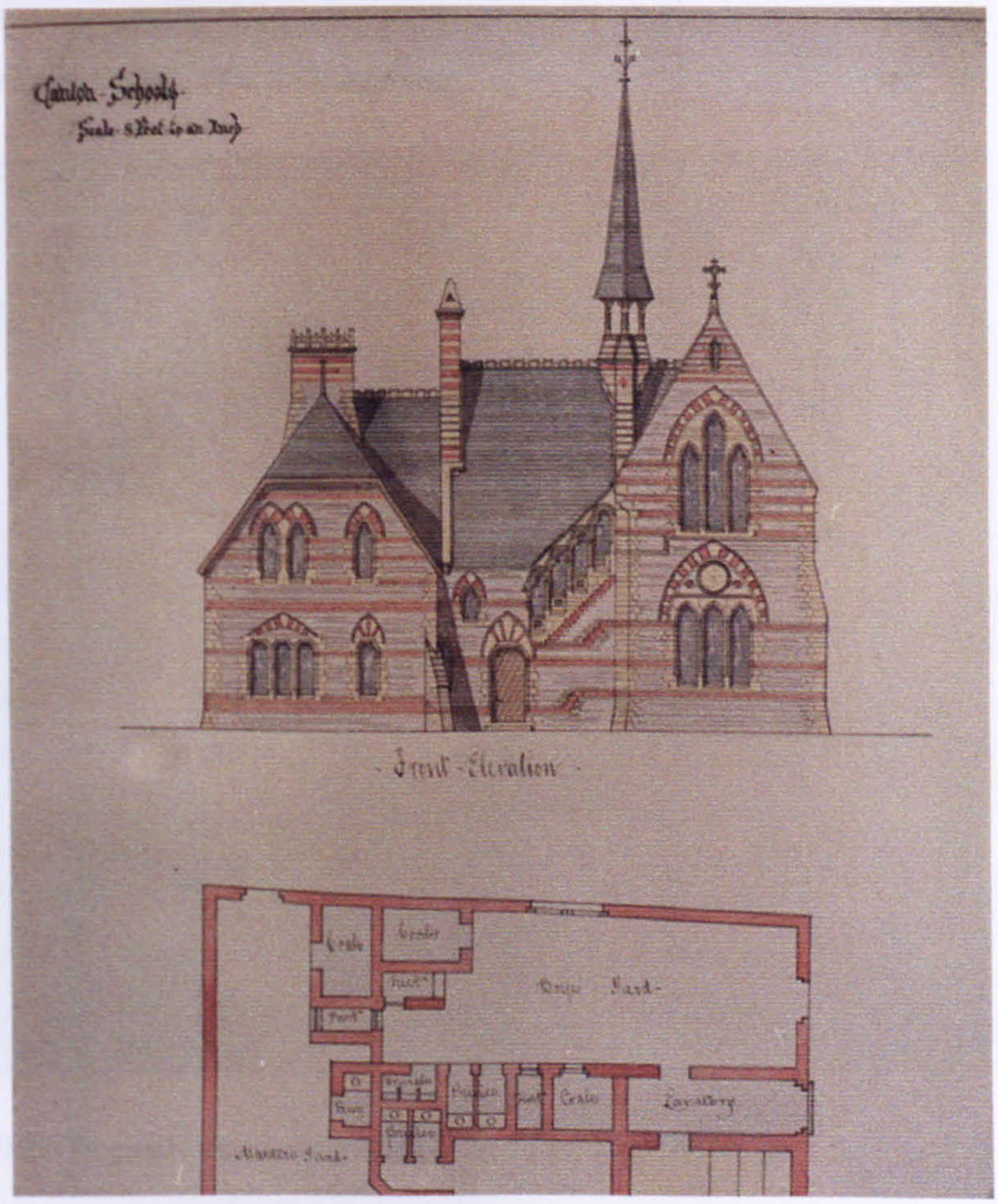
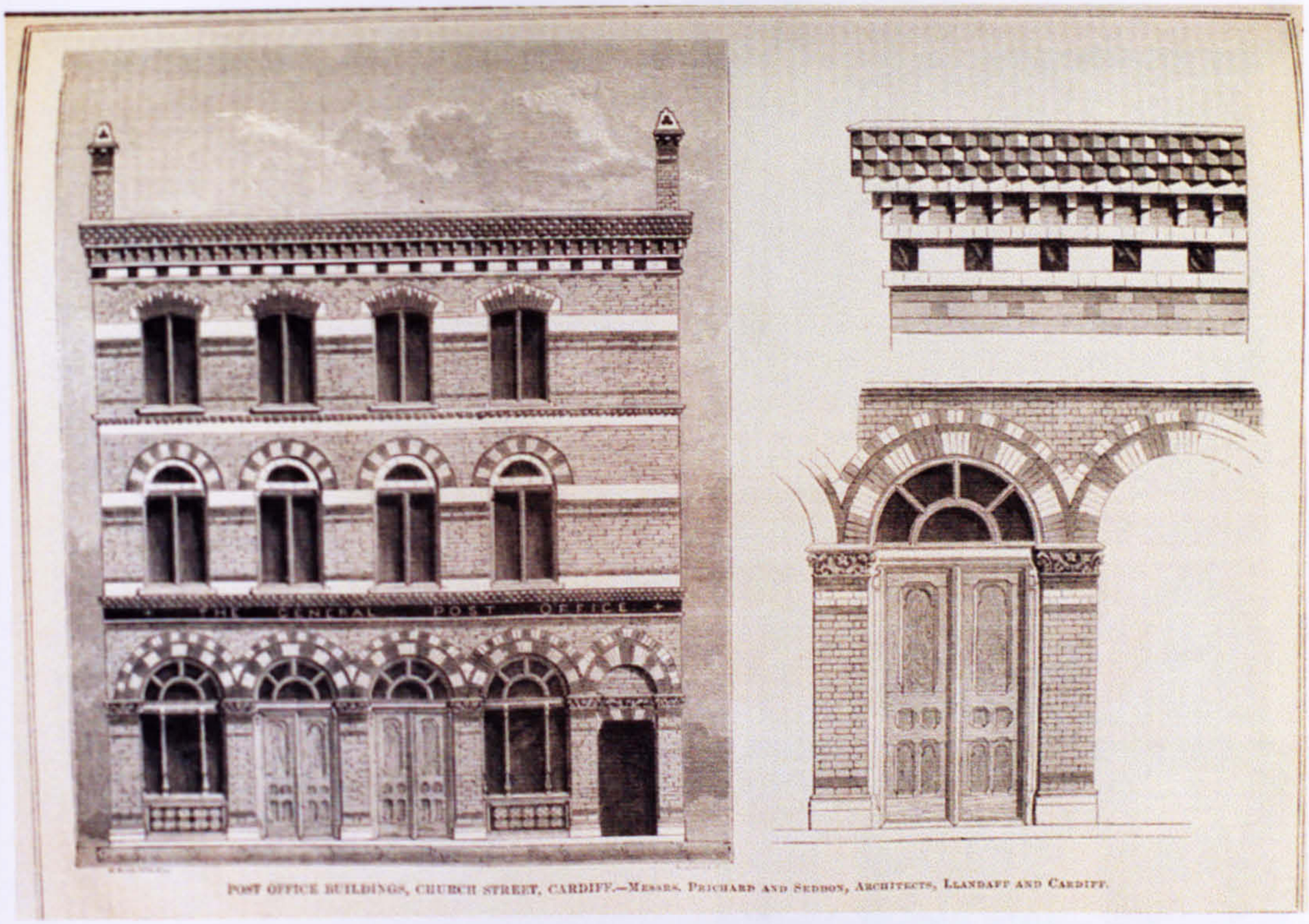


Fig. VII.23 Proposals for school at Cardiff (Canton), Glamorgan



POST OFFICE BUILDINGS, CHURCH STREET, CARDIFF.—MESSRS. PRICHARD AND SEDDON, ARCHITECTS, LLANDAFF AND CARDIFF.

Fig. VII.24 Post Office buildings, Cardiff. *(The Building News)*

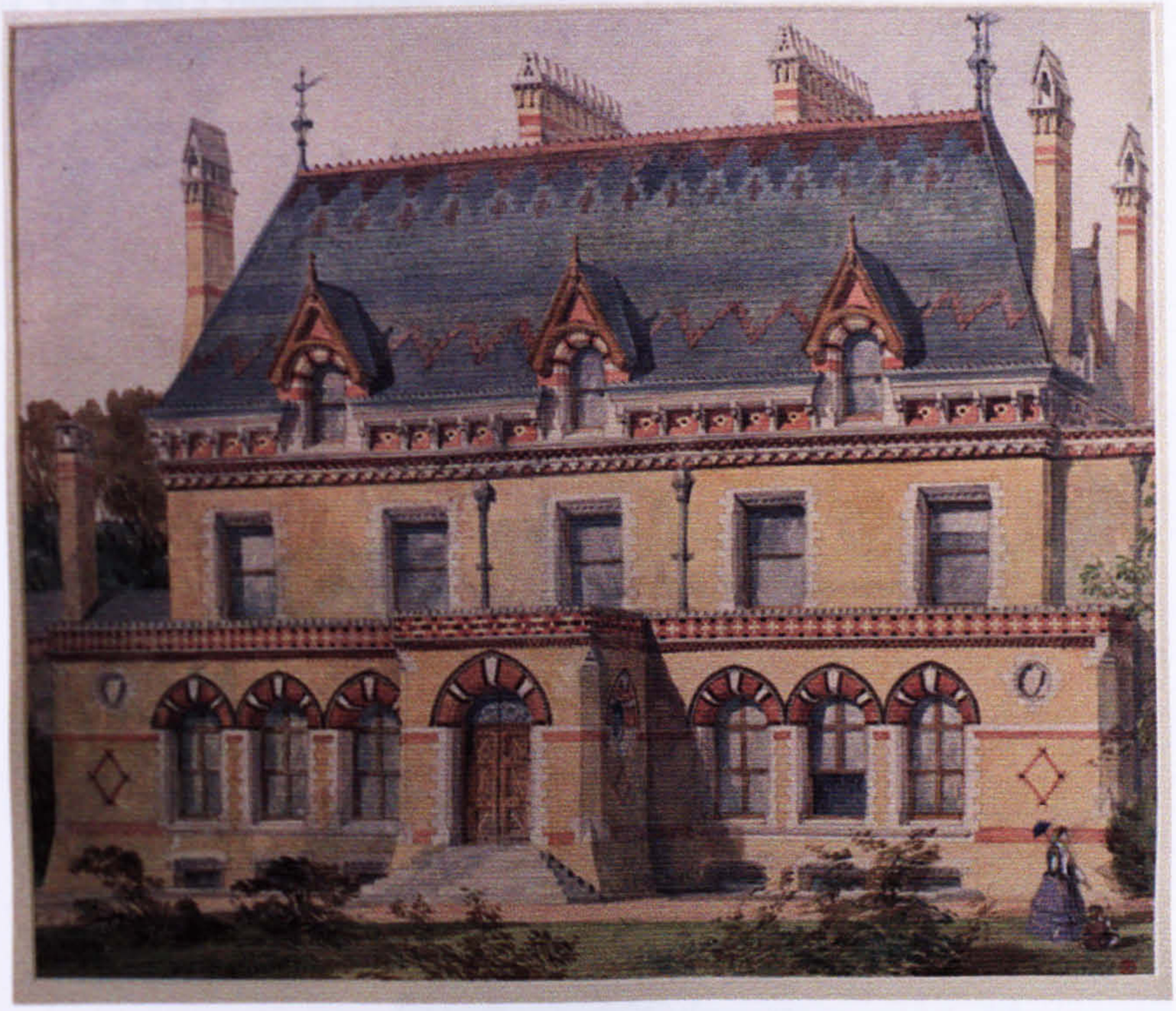


Fig. VII.25 Proposals for an unidentified house by Prichard and Seddon

Fig. VII.26 No 5 Victoria Terrace, Aberystwyth: original proposal for sea front elevation

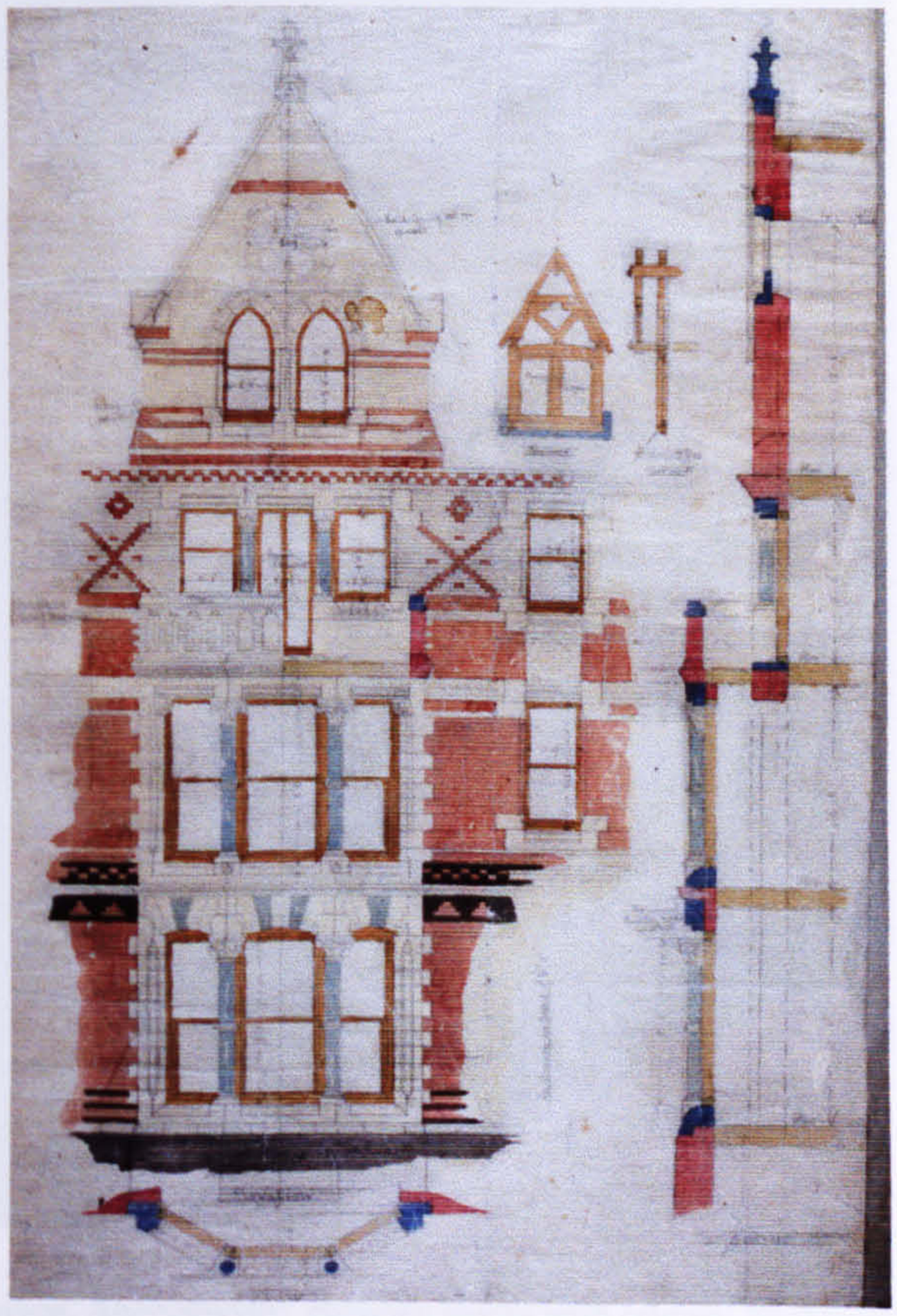


Fig. VII.27 No 5 Victoria Terrace, Aberystwyth: as-built sea front elevation

Fig. VII.28 Victoria Terrace, Aberystwyth: sea front elevation today (No 5 nearest house behind scaffolding)

Fig. VII.29 Victoria Terrace, Aberystwyth: chimney stacks with original brickwork

Fig. VII.30 Villas in North Road, Aberystwyth, built at the time of Victoria Terrace

Fig.VII.31 No 7 Lothbury Street, City of London

Fig. VII.32 No 5 Throgmorton Street, City of London

Fig.VII.33 Nos 33-35 Eastcheap, City of London

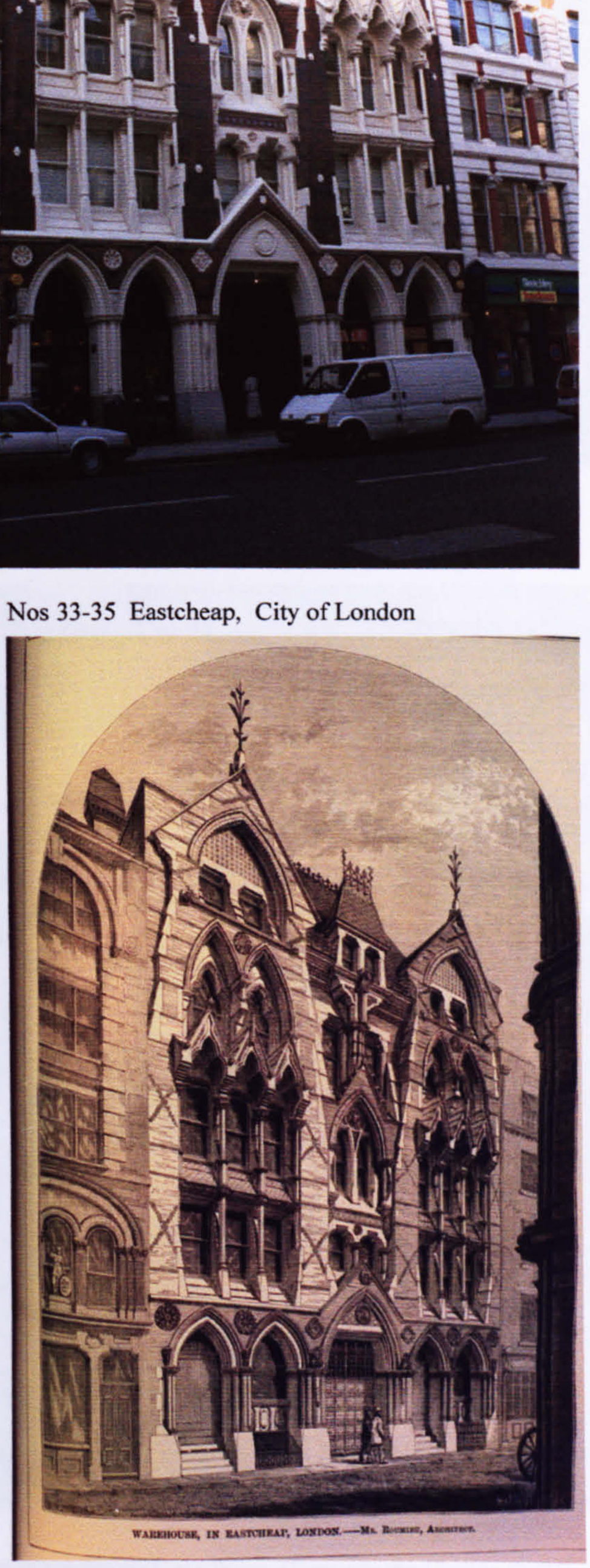


Fig. VII.34 Nos 33-35 Eastcheap, City of London *(The Builder)*

Fig. VII 35 Interior of the Royal Mausoleum, Frogmore, Windsor

Fig.VII 36 East elevation of the Henry Cole Wing (formerly the Huxley Building) showing sgraffito work

CONCLUSION

During restoration work in 1996 on the West Front of Lincoln Cathedral evidence was discovered of brightly coloured pigment on the twelfth-century Romanesque frieze which had survived from the time when the screen was first painted. These pigments included copper based greens, lapis lazuli blues and lead reds.[1] This discovery comes as a reminder that the desire to have bright colour on buildings was much stronger in medieval times than it is today and is a taste or mood which varies from one age to another. This thesis has been concerned, therefore, with a period in our history, the mid-nineteenth century, when colour took on an extraordinary significance for its architecture, a situation which is not always easy to appreciate today.

It has already been remarked in the 'Literary Review' that certain problems seem to have arisen from the methods adopted by van Zanten in his thesis *The Architectural Polychromy of the 1830s* for highlighting the differences in architectural polychromy between the 1830s and the 1850s. One problem was that the contrasts had been unduly accentuated by drawing the examples from different cultural backgrounds and different Romantic traditions (i.e. Classical versus Gothic), as well as from different periods. This approach is believed to have created an artificial distinction between colour as represented by different architectural traditions. Instead, this research has concentrated upon the Gothic tradition and its revival, but has shown how practitioners of the mid-nineteenth century drew their colour knowledge, not only from this tradition, but equally from the antique and Islamic traditions. In adopting this approach it is felt a more balanced view has been presented of the way polychromy developed in Britain during the period under study. Another problem admitted by van Zanten was that a system of analysis which depended heavily on descriptions of the formal properties of

architectural polychromy seems to have been an insufficient basis for historical investigation. It was later acknowledged by van Zanten[2] that the absence of the 'myriad links and analogies' meant a very important component in the development of polychromy had been left out of the discussion. Such 'links and analogies' are believed to be critical, particularly when considering British religious buildings, for instance, since the architectural and religious reasons for development of polychromy are so entangled.

As this thesis has attempted to show the origins and references of works of polychromy during the 1850s are complex, especially as polychromy became an increasingly hybrid practice during the 1860s; never being just the revival of one or another previous tradition, but more often an amalgamation of them. What becomes apparent, however, is that in spite of this complexity each of the threads of development can be shown to refer to certain sets of architectural principles. In some instances the polychromy has been based on known principles which had an essentially theoretical background and they have been de

fined and articulated. In other cases the ideas behind the polychromy came about as a result of the building process. Where this has happened the ideas may not have been articulated and the buildings themselves have had to provide the evidence for guiding principles. For this reason the conclusions reached by this study are to a large extent based on the evidence of existing buildings.

By comparison to the theorists and practitioners of architectural polychromy considered in this study Owen Jones occupies a special place for a number of reasons. Jones was the only English writer/architect to put forward a systematic theory of

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[1] During the period of restoration a small exhibition was mounted in the cathedral which provided details about the frieze and the work which was being undertaken.
[2] VAN ZANTEN, p2

architectural colour. Others, such as David Hay[3] and Nathaniel Whittock[4] may have developed guiding principles for decorative paintwork but the unique aspect of Jones's 'General Principles' is that they are more broadly based and are applicable to permanent polychromy as well as to painted polychromy. Jones's theories also have the distinction of providing a bridge between the early nineteenth century theorists, such as Field and Chevreul and the later ones like Ogden Rood and Wilhelm Ostwald, who developed ideas for a science of architectural colouring based upon perception. As one considers the various ideas about architectural colour put forward by the architects and writers included in this study it is noticeable that there are many overlaps with Owen Jones's principles. Not all of these coincide with his views and in some cases there is a difference of emphasis. What one can say, however, is that in Jones's principles we can find a confluence of the various strands which run through this study. For this reason this concluding section is treated as a dialogue between Jones's principles and those of his colleagues.

It is unfortunate we have so little of Jones's built work by which to judge his success in putting his own ideas concerning architectural colour into practice, and particularly those in which he applied his ideas on optical colour fusion. It seems no discredit to Wild to say that this absence of surviving built work by Jones is compensated to some extent by the existence of Christ Church, Streatham, since that building represents a number of Jones's principles so well. Wild and Jones shared the view that a contemporary building should not be designed in a revivalist style and believed that one way in which this could be avoided was to combine elements from different styles in a cohesive way. At Christ Church, Streatham, Wild was able to put Jones's 'modern' approach into practice. Wild's way of achieving a unity was to take

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[3] HAY, DAVID R. (1828) *The Laws of Harmonious Colouring Adapted to House Painting*, (Edinburgh: D. Lizars)

features from colour practices of several different kinds and to use them without regard to their historical origins. In adopting this approach Wild became the first practising architect to become completely eclectic in his approach to colour and to not feel tied to the traditions of either Gothic or Classical or Islamic architecture.

This preoccupation of Jones and Wild with the development of a modern architecture in which modern materials and a mixture of features, culled from different historical styles would play a part, links closely with another theme in this study - the rejection of a notion of colour as being symbolic. This connection between colour and symbolism had been revived during the 1830s and 1840s by antiquarian interests in medieval religious symbolism and heraldry and emerged as a feature of the Gothic Revival. It was Pugin, however, who created greater awareness and interest in the part which colour played in symbolism by his published works and his architectural use of painted polychromy. Pugin's principle that 'in pure architecture the smallest detail should *have a meaning or serve a purpose'* has significance for this study in two ways. First of all it has been used as a reference point for elaborating the distinction between painted polychromy and decorative paintwork. The conclusion which has been reached is that a scheme of decorative paintwork which uses coloured ornament for symbolic purposes, (i.e. to give meaning) or is there to 'enrich the essential construction of the building', may be regarded as polychromy. If it does neither of these things it is decorative paintwork. The other way in which Pugin's principle has significance concerns the link between painted colour and symbolism. As Chapters IV and VII have explained, symbolic colour in architecture was closely bound up with the theory of 'development' as it applied to the Gothic Revival in the religious sense. Once the Anglican Church had, for religious reasons, decided to seek an alternative to painted

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[4] WHITTOCK, NATHANIEL, (1827) *The Decorative Painters' and Glaziers' Guide*, (London: Isaac Taylor Hinton)

polychromy with its symbolic associations, Jones's theories concerning colour and ornament took on a new importance. His principles for the ways in which colour and form were to be used were not limiting and provided endless opportunities for invention and interpretation. Because of the symbolism of their ornaments the Gothic and other historical styles did not, for Jones, provide an avenue for development of a contemporary style.

In contrast the Moors were restricted by their religion from the use of human and animal forms in the decorative motifs and this had led them to develop a system of ornament free of symbolism and one which made extensive use of abstract geometric forms. This and the fact that the rules which controlled the way in which colour and form could be used were unrestrictive meant that the Moorish style of ornament provided Jones with the basis of his general principles in the arrangement of form and colour in architecture and the decorative arts. This breaking of the mould which connected colour with symbolism may be seen with hindsight, therefore, as a highly significant aspect of Jones's contribution towards the development of polychromy in the nineteenth century. But if there was a gulf between Pugin and Jones on the question of symbolism they seem to have been in accord concerning the relationship between structure and ornament. In establishing his fifth Proposition,

> 'Construction should be decorated. Decoration should never be purposely constructed'

Jones seems to have embraced Pugin's own principle,

> 'All ornament should consist of enrichment of the essential construction of the building'

and in agreeing on this principle they therefore seem to have jointly established a firm theoretical basis for the practice of structural polychromy.

While it is relatively easy to make comparisons between Pugin and Jones, since each was a practising architect who was putting his theories into practice, comparison

with Ruskin presents a different problem. There are several reasons why this should be the case. The first is that unlike the others Ruskin had no direct responsibility for the design of buildings which could demonstrate his ideas. This meant that he was in a position where he was telling others how they should be using colour in buildings without being forced to commit himself in built examples. Ruskin's limitations concerning his ability to put theory into practice are well illustrated by his reluctance to provide Acland with ideas for the decoration of the iron frame in the court of the Oxford University Museum. Those buildings discussed in Chapter V which may be regarded as 'Ruskinian', because they owe a debt to Ruskin's written ideas, are equally the creation of their architects. Another difficulty in comparing Ruskin's ideas about architectural colour with those of Jones is that, unlike him, he is primarily concerned with the way the eye perceives a building rather than with the means by which a building should be designed so as to satisfy the eye. This vital difference raises a question as to how far he can be interpreted as providing principles for design.

Ruskin's ideas concerning architectural colour are expressed almost entirely in terms of stone as a building material. So long as a building was of traditional masonry construction these ideas could give guidance to an architect but once a modern method of construction was employed which did not involve the use of stone, the architectural colouring had to follow a different system. On a stone building such as Ettington Park or Northampton Town Hall the colouring depended upon quite subtle contrasts and gradations for effect but these techniques could not be used the same way in a brick building. Once a decision had been made to construct All Saints, Margaret Street, in brick Butterfield introduced a decorative colour system in which contrasts in colour in the brickwork were designed to provide surface relief as an alternative to surface modelling. This, therefore, brought in quite a different system of architectural colouring to that proposed by Ruskin's ideas. Since brick began to be much more widely used as a

building material from about this time (1850), it was a brick-orientated form of structural polychromy, rather than a stone one, which came to feature most widely in High Victorian architecture. It must be concluded therefore that in regard to architectural colour Butterfield had more effect on High Victorian architectural practice than Ruskin's theories.

The Conclusions to Chapter VI noted that William White believed there was a need for the subject of colour to be approached more scientifically and that a systematic 'code of colouring' should be established; this in spite of the fact that Owen Jones had lectured widely on the subject of colour theory and had published *The Grammar of Ornament* five years before White gave his talk. There may have been no acknowledgement of Jones's influence but, even if they were unaware of his principles, Butterfield, Street and White seem to have followed a number of them in practice. By its very nature structural polychromy followed several of Jones's principles - *Proposition 5*: 'Construction should be decorated, and Decoration should never be purposely constructed', and *Proposition 8*: 'All ornament should be based upon a geometrical construction'. The decoration was created by the different coloured structural bricks and tiles and it was formed within the modular grid of the brick bonding. *Proposition 14*: 'Colour is used to assist in the development of form, and to distinguish objects or parts of objects one from another', is a principle which may be seen at work at small scale and at large scale. At St James-the-Less, for example, we see the colour variegated voussoirs giving form to the arches and at large scale we see the various elements in the building's composition distinguished from each other by the use of colour. *Proposition 15*: 'Colour is used to assist light and shade, helping the undulations of form by the proper distribution of the several colours', is well demonstrated by the sexpartite vault of the chancel at St James-the-Less. The device of contrasting bricks of different colours, red and blue black with yellow Bath stone to

create an effect of modelling on surfaces where there is in fact little relief, corresponds to the optical effects suggested by *Proposition 21* and is well demonstrated by Keble College Chapel, Oxford.

It has been the purpose of this study, therefore, to show that for much of the period between 1840 and 1870 architectural polychromy, as a feature of the Gothic Revival, was not a random practice but was something which developed along a path of progress according to sets of identifiable principles. Structural, or permanent, polychromy was in use in Britain long after 1870 but it is concluded that around this time the theoretical basis for its practice seems to have deteriorated. The symptoms of this decline have been discussed in Chapter VII and may be summarised as:

- a retreat from the use of colour in High Anglican churches resulting from a shift in theological doctrine;
- the contractual and budgetary problems created for architects implicit in the practice of structural polychromy;
- an increase in the use of structural polychromy by architects who lacked a proper understanding of the guiding principles;
- the vulgarisation of polychromy resulting from a desire to produce extravagant and eye-catching new designs;
- the adoption of an eclectic style of architecture at South Kensington with mixed Renaissance and Gothic features which led to a style of architecture in which the decoration was applied rather than part of the structure.

In the last three of these identified symptoms a withdrawal from the use of guiding principles once again produces a link with Owen Jones. There seems to be a particular irony that little account was taken of Jones's principles in the development of

the South Kensington Museum. It was Henry Cole, as Head of the Department of Practical Art, who had persuaded Jones to produce a book on ornamental design which would illustrate the examples of historical ornament displayed in the Museum of Ornamental Design and would represent the principles of design already being advocated in the catalogue for the School of Design. As a result of these pressures from Cole, Jones had produced *The Grammar of Ornament*. It was, however, Henry Cole and his deputy, Richard Redgrave, together with Fowke, who adopted the system by which structure and ornament were separated and in doing so abandoned many of the principles which had guided the use of architectural polychromy during the previous twenty years.

This thesis has shown how in the mid-nineteenth century many of the strands of development in architectural polychromy are, therefore, drawn together by the guiding principles of Owen Jones. The one strand which is missing, however, is that which involves the catalyst for this thesis, the British Museum Entrance Hall. In view of the fact that this interior was the first large-scale archaeological exercise in Greek-revival colouring in a public building in Britain, Jones remained strangely silent about it. While we do not know why he omitted to comment on it, it can be said that in at least two respects, it contravened his own principles. The first derives from his remarks about Greek ornament in *The Grammar of Ornament*. There he shows his reservations, observing,

> 'Greek ornament was wanting...in one of the great charms which should always accompany ornament, - viz. symbolism. It was meaningless, purely decorative, never representative, and can hardly be said to be constructive;...The ornament was no part of the construction, as with the Egyptian: it could be removed and the structure remained unchanged.'[5]

The second stems from *Proposition 2*:

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[5] JONES: *Grammar*, p. 33.

> 'Architecture is the material expression of the wants, the faculties, and the sentiments of the age in which it is created.'

Just as Jones had reservations about Gothic revival decorations, so it must be assumed he would have felt the same about a modern Greek Revival decorative scheme. He would have regarded it as inappropriate for the age.

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